

Masayoshi Shibatani, Shigeru Miyagawa, Hisashi Noda (Eds.)  
**Handbook of Japanese Syntax**

# **Handbooks of Japanese Language and Linguistics**

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Edited by  
Masayoshi Shibatani  
Taro Kageyama

## **Volume 4**

# Handbook of Japanese Syntax

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# Preface

The project of compiling a series of comprehensive handbooks covering major fields of Japanese linguistics started in 2011, when Masayoshi Shibatani received a commission to edit such volumes as series editor from De Gruyter Mouton. As the planning progressed, with the volume titles selected and the volume editors assigned, the enormity of the task demanded the addition of a series co-editor. Taro Kageyama, Director-General of the National Institute for Japanese Language and Linguistics (NINJAL), was invited to join the project as a series co-editor. His participation in the project opened the way to make it a joint venture between NINJAL and De Gruyter Mouton. We are pleased to present the *Handbooks of Japanese Language and Linguistics (HJLL)* as the first materialization of the agreement of academic cooperation concluded between NINJAL and De Gruyter Mouton.

The HJLL Series is composed of twelve volumes, primarily focusing on Japanese but including volumes on the Ryukyuan and Ainu languages, which are also spoken in Japan, as well as some chapters on Japanese Sign Language in the applied linguistics volume.

- Volume 1: *Handbook of Japanese Historical Linguistics*
- Volume 2: *Handbook of Japanese Phonetics and Phonology*
- Volume 3: *Handbook of Japanese Lexicon and Word Formation*
- Volume 4: *Handbook of Japanese Syntax*
- Volume 5: *Handbook of Japanese Semantics and Pragmatics*
- Volume 6: *Handbook of Japanese Contrastive Linguistics*
- Volume 7: *Handbook of Japanese Dialects*
- Volume 8: *Handbook of Japanese Sociolinguistics*
- Volume 9: *Handbook of Japanese Psycholinguistics*
- Volume 10: *Handbook of Japanese Applied Linguistics*
- Volume 11: *Handbook of the Ryukyuan Languages*
- Volume 12: *Handbook of the Ainu Language*

Surpassing all currently available reference works on Japanese in both scope and depth, the *HJLL* series provides a comprehensive survey of nearly the entire field of Japanese linguistics. Each volume includes a balanced selection of articles contributed by established linguists from Japan as well as from outside Japan and is critically edited by volume editors who are leading researchers in their individual fields. Each article reviews milestone achievements in the field, provides an overview of the state of the art, and points to future directions of research. The twelve titles are thus expected individually and collectively to contribute not only to the enhancement of studies on Japanese on the global level but also to the opening up of new perspectives for general linguistic research from both empirical and theoretical standpoints.

The *HJLL* project has been made possible by the active and substantial participation of numerous people including the volume editors and authors of individual

chapters. We would like to acknowledge with gratitude the generous support, both financial and logistic, given to this project by NINJAL. We are also grateful to John Haig (retired professor of Japanese linguistics, the University of Hawai'i at Mānoa), serving as copy-editor for the series. In the future, more publications are expected to ensue from the NINJAL-Mouton academic cooperation.

Masayoshi Shibatani, Deedee McMurtry Professor of Humanities and Professor of Linguistics, Rice University/Professor Emeritus, Kobe University

Taro Kageyama, Director-General, National Institute for Japanese Language and Linguistics (NINJAL)/Professor Emeritus, Kwansei Gakuin University

Masayoshi Shibatani and Taro Kageyama

# **Introduction to the *Handbooks of Japanese Language and Linguistics***

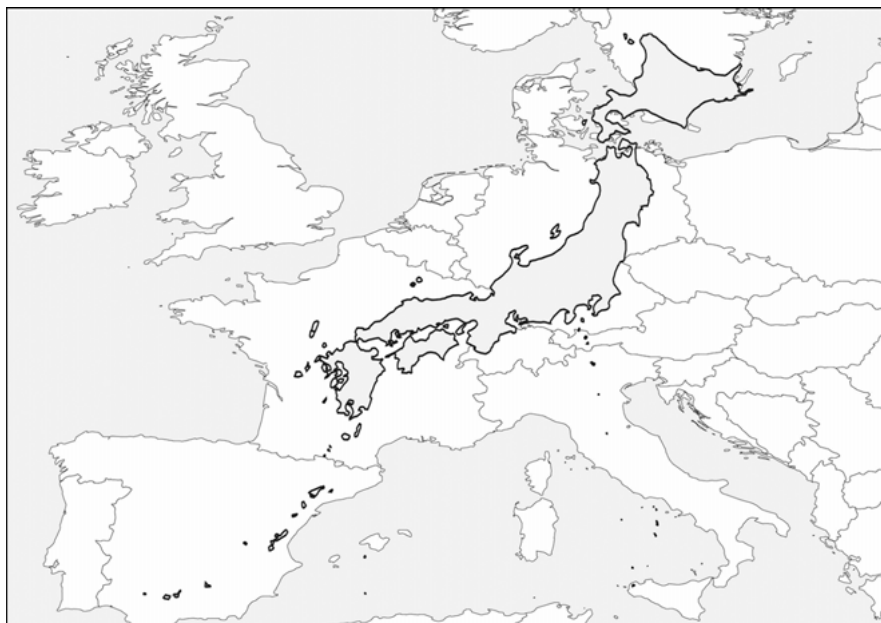
Comprising twelve substantial volumes, the *Handbooks of Japanese Language and Linguistics* (HJLL) series provides a comprehensive survey of practically all the major research areas of Japanese linguistics on an unprecedented scale, together with surveys of the endangered languages spoken in Japan, Ryukyuan and Ainu. What follows are introductions to the individual handbooks, to the general conventions adopted in this series, and the minimum essentials of contemporary Standard Japanese. Fuller descriptions of the languages of Japan, Japanese grammar, and the history of the Japanese language are available in such general references as Martin (1975), Shibatani (1990), and Frellesvig (2010).

## **1 Geography, Population, and Languages of Japan**

Japan is situated in the most populous region of the world – Asia, where roughly one half of the world population of seven billion speak a variety of languages, many of which occupy the top tier of the ranking of the native-speaker population numbers. Japanese is spoken by more than 128 million people (as of 2013), who live mostly in Japan but also in Japanese emigrant communities around the world, most notably Hawaii, Brazil and Peru. In terms of the number of native speakers, Japanese ranks ninth among the world's languages. Due partly to its rich and long literary history, Japanese is one of the most intensely studied languages in the world and has received scrutiny under both the domestic grammatical tradition and those developed outside Japan such as the Chinese philological tradition, European structural linguistics, and generative grammar developed in America. The *Handbooks of Japanese Language and Linguistics* intend to capture the achievements garnered over the years through analyses of a wide variety of phenomena in a variety of theoretical frameworks.

As seen in Map 1, where Japan is shown graphically superimposed on Continental Europe, the Japanese archipelago has a vast latitudinal extension of approximately 3,000 kilometers ranging from the northernmost island, roughly corresponding to Stockholm, Sweden, to the southernmost island, roughly corresponding to Sevilla, Spain.

Contrary to popular assumption, Japanese is not the only language native to Japan. The northernmost and southernmost areas of the Japanese archipelago are inhabited by people whose native languages are arguably distinct from Japanese. The southernmost sea area in Okinawa Prefecture is dotted with numerous small islands



**Map 1:** *Japan as overlaid on Europe*

Source: Shinji Sanada. 2007. *Hōgen wa kimochi o tsutaeru [Dialects convey your heart]*.

Tokyo: Iwanami, p. 68.

where Ryukyuan languages are spoken. Until recent years, Japanese scholars tended to treat Ryukyuan language groups as dialects of Japanese based on fairly transparent correspondences in sounds and grammatical categories between mainland Japanese and Ryukyuan, although the two languages are mutually unintelligible. Another reason that Ryukyuan languages have been treated as Japanese dialects is that Ryukyuan islands and Japan form a single nation. In terms of nationhood, however, Ryukyu was an independent kingdom until the beginning of the seventeenth century, when it was forcibly annexed to the feudal domain of Satsuma in southern Kyushu.

A more recent trend is to treat Ryukyuan as forming a branch of its own with the status of a sister language to Japanese, following the earlier proposals by Chamberlain (1895) and Miller (1971). Many scholars specializing in Ryukyuan today even confer language status to different language groups within Ryukyuan, such as Amami language, Okinawan language, Miyako language, etc., which are grammatically distinct to the extent of making them mutually unintelligible. The prevailing view now has Japanese and Ryukyuan forming the Japonic family as daughter languages of Proto-Japonic. HJLL follows this recent trend of recognizing Ryukyuan as a sister language to Japanese and devotes one full volume to it. The ***Handbook of the Ryukyuan Languages*** provides the most up-to-date answers pertaining to Ryukyuan



language structures and use, and the ways in which these languages relate to Ryukyuan society and history. Like all the other handbooks in the series, each chapter delineates the boundaries and the research history of the field it addresses, comprises the most important and representative information on the state of research, and spells out future research desiderata. This volume also includes a comprehensive bibliography of Ryukyuan linguistics.

The situation with Ainu, another language indigenous to Japan, is much less clear as far as its genealogy goes. Various suggestions have been made relating Ainu to Paleo-Asiatic, Ural-Altaic, and Malayo-Polynesian or to such individual languages as Gilyak and Eskimo, besides the obvious candidate of Japanese as its sister language. The general consensus, however, points to the view that Ainu is related to Japanese quite indirectly, if at all, via the Altaic family with its Japanese-Korean subbranch (see Miller 1971; Shibatani 1990: 5–7 for an overview). Because Ainu has had northern Japan as its homeland and because HJLL is also concerned with various aspects of Japanese linguistics scholarship in general, we have decided to include a volume devoted to Ainu in this series. The *Handbook of the Ainu Language* outlines the history and current state of the Ainu language, offers a comprehensive survey of Ainu linguistics, describes major Ainu dialects in Hokkaido and Sakhalin, and devotes a full section to studies dealing with typological characteristics of the Ainu language such as polysynthesis and incorporation, person marking, plural verb forms, and aspect and evidentials.

## 2 History

Japan's rich and long literary history dates back to the seventh century, when the Japanese learned to use Chinese characters in writing Japanese. Because of the availability of abundant philological materials, the history of the Japanese language has been one of the most intensely pursued fields in Japanese linguistics. While several different divisions of Japanese language history have been proposed, Frellesvig (2010) proposes the following four linguistic periods, each embracing the main political epochs in Japanese history.

- |                          |           |  |
|--------------------------|-----------|--|
| 1. Old Japanese          | 700–800   | (Nara period, 712–794)   |
| 2. Early Middle Japanese | 800–1200  | (Heian period, 794–1185)   |
| 3. Late Middle Japanese  | 1200–1600 | (Kamakura period, 1185–1333;<br>Muromachi period, 1333–1573)                                 |
| 4. Modern Japanese       | 1600–     | (Edo, 1603–1868; Meiji, 1868–1912;<br>Taishō, 1912–1926; Shōwa, 1926–1989;<br>Heisei, 1989–) |

This division reflects a major gulf between Pre-modern and Modern Japanese caused by some radical changes in linguistic structure during the Late Middle Japanese period. Modern Japanese is often further subdivided into Early Modern (Edo, 1603–1868), Modern (Meiji, 1868–1912; Taishō, 1912–1926), and Present-day Japanese (Shōwa, 1926–1989; Heisei, 1989–).

The *Handbook of Japanese Historical Linguistics* will present the latest research on better studied topics, such as segmental phonology, accent, morphology, and some salient syntactic phenomena such as focus constructions. It will also introduce areas of study that have traditionally been underrepresented, ranging from syntax and Sinico-Japanese (*kanbun*) materials to historical pragmatics, and demonstrate how they contribute to a fuller understanding of the overall history of Japanese, as well as outlining larger-scale tendencies and directions in changes that have taken place within the language over its attested history. Major issues in the reconstruction of prehistoric Japanese and in the individual historical periods from Old Japanese to Modern Japanese are discussed including writing and the materials for historical studies, influences of Sinico-Japanese on Japanese, the histories of different vocabulary strata, the history of honorifics and polite language, generative diachronic syntax, and the development of case marking.

### 3 Geographic and Social Variations

Because of the wide geographical spread of the Japanese archipelago from north to south, characterized by high mountain ranges, deep valleys, and wide rivers as well as numerous islands, Japanese has developed a multitude of dialects, many of which differ from each other in a way more or less like current descendants of the Romance language family. Like the historical studies, the research tradition of dialect studies has a unique place in Japanese linguistics, which has also attracted a large number of students, amateur collectors of dialect forms as well as professional linguists. The *Handbook of Japanese Dialects* surveys the historical backdrop of the theoretical frameworks of contemporary studies in Japanese geolinguistics and includes analyses of prominent research topics in cross-dialectal perspectives, such as accentual systems, honorifics, verbs of giving, and nominalizations. The volume also devotes large space to sketch grammars of dialects from the northern island of Hokkaido to the southern island of Kyushu, allowing a panoramic view of the differences and similarities in the representative dialects throughout Japan.

Besides the physical setting fostering geographic variations, Japanese society has experienced several types of social structure over the years, starting from the time of the nobility and court life of the Old and Early Middle Japanese periods, through the caste structure of the feudalistic Late Middle and Early Modern Japanese periods, to the modern democratic society in the Modern and Present-day Japanese

periods. These different social structures spawned a variety of social dialects including power- and gender-based varieties of Japanese. The ***Handbook of Japanese Sociolinguistics*** examines a wide array of sociolinguistic topics ranging from the history of Japanese sociolinguistics, including foreign influences and internal innovations, to the central topics of variations due to social stratification, gender differences, and discourse genre. Specific topics include honorifics and women's speech, critical discourse analysis, pragmatics of political discourse, contact-induced change, emerging new dialects, Japanese language varieties outside Japan, and language policy.

## 4 Lexicon and Phonology

The literary history of Japan began with early contacts with China. Chinese apparently began to enrich the Japanese lexicon in even pre-historic periods, when such deeply assimilated words as *uma* 'horse' and *ume* 'plum' are believed to have entered the language. Starting in the middle of the sixth century, when Buddhism reached Japan, Chinese, at different periods and from different dialect regions, has continuously contributed to Japanese in an immeasurable way affecting all aspects of grammar, but most notably the lexicon and the phonological structure, which have sustained further and continuous influences from European languages from the late Edo period on. Through these foreign contacts, Japanese has developed a complex vocabulary system that is composed of four lexical strata, each with unique lexical, phonological, and grammatical properties: native Japanese, mimetic, Sino-Japanese, and foreign (especially English).

The ***Handbook of Japanese Lexicon and Word Formation*** presents a comprehensive survey of the Japanese lexicon, word formation processes, and other lexical matters seen in the four lexical strata of contemporary Japanese. The agglutinative character of the language, coupled with the intricate system of vocabulary strata, makes it possible for compounding, derivation, conversion, and inflection to be closely intertwined with syntactic structure, giving rise to theoretically intriguing interactions of word formation processes and syntax that are not easily found in inflectional, isolating, or polysynthetic types of languages. The theoretically oriented studies associated with these topics are complemented by those oriented toward lexical semantics, which also bring to light theoretically challenging issues involving the morphology-syntax interface.

The four lexical strata characterizing the Japanese lexicon are also relevant to Japanese phonology as each stratum has some characteristic sounds and sound combinations not seen in the other strata. The ***Handbook of Japanese Phonetics and Phonology*** describes and analyzes the basic phonetic and phonological structures of modern Japanese with main focus on standard Tokyo Japanese, relegating the topics of dialect phonetics and phonology to the *Handbook of Japanese Dialects*.

The handbook includes several chapters dealing with phonological processes unique to the Sino-Japanese and foreign strata as well as to the mimetic stratum. Other topics include word tone/accent, mora-timing, sequential voicing (*rendaku*), consonant geminates, vowel devoicing and diphthongs, and the appearance of new consonant phonemes. Also discussed are phonetic and phonological processes within and beyond the word such as rhythm, intonation, and the syntax-phonology interface, as well as issues bearing on other subfields of linguistics such as historical and corpus linguistics, L1 phonology, and L2 research.

## 5 Syntax and Semantics

Chinese loans have also affected Japanese syntax, though the extent is unclear to which they affected Japanese semantics beyond the level of lexical semantics. In particular, Chinese loans form two distinct lexical categories in Japanese – verbal nouns, forming a subcategory of the noun class, and adjectival nouns (*keiyō dōshi*), which are treated as forming major lexical categories, along with noun, verb, and adjective classes, by those who recognize this as an independent category. The former denote verbal actions, and, unlike regular nouns denoting objects and thing-like entities, they can function as verbs by combining with the light verb *suru* ‘do’. The nominal-verbal Janus character of verbal nouns results in two widely observed syntactic patterns that are virtually synonymous in meaning; e.g., *benkyōo-suru* (studying-DO) ‘to study’ and *benkyōo o suru* (studying ACC do) ‘do studying’. As described in the *Handbook of Japanese Lexicon and Word Formation*, the lexical category of adjectival noun has been a perennial problem in the analysis of Japanese parts of speech. The property-concept words, e.g., *kirei* ‘pretty’, *kenkō* ‘health/healthy’, falling in this class do not inflect by themselves unlike native Japanese adjectives and, like nouns, require the inflecting copula *da* in the predication function – hence the label of adjectival noun for this class. However, many of them cannot head noun phrases – the hallmark of the nominal class – and some of them even yield nouns via *-sa* nominalization, which is not possible with regular nouns.

The Lexicon-Word Formation handbook and the *Handbook of Japanese Syntax* make up twin volumes because many chapters in the former deal with syntactic phenomena, as the brief discussion above on the two Sino-Japanese lexical categories clearly indicates. The syntax handbook covers a vast landscape of Japanese syntax from three theoretical perspectives: (1) traditional Japanese grammar, known as *kokugogaku* (lit. national-language study), (2) the functional approach, and (3) the generative grammar framework. Broad issues analyzed include sentence types and their interactions with grammatical verbal categories, grammatical relations (topic, subject, etc.), transitivity, nominalization, grammaticalization, voice (passives and

causatives), word order (subject, scrambling, numeral quantifier, configurationality), case marking (*ga/no* conversion, morphology and syntax), modification (adjectives, relative clause), and structure and interpretation (modality, negation, prosody, ellipsis). These topics have been pursued vigorously over many years under different theoretical persuasions and have had important roles in the development of general linguistic theory. For example, the long sustained studies on the grammatical of subject and topic in Japanese have had significant impacts on the study of grammatical relations in European as well as Austronesian languages. In the study of word order, the analysis of Japanese numeral quantifiers is used as one of the leading pieces of evidence for the existence of a movement rule in human language. Under case marking, the way subjects are case-marked in Japanese has played a central role in the study of case marking in the Altaic language family. Recent studies of nominalizations have been central to the analysis of their modification and referential functions in a wide variety of languages from around the globe with far-reaching implications to past studies of such phenomena as parts of speech, (numeral) classifiers, and relative clauses. And the study of how in Japanese prosody plays a crucial role in interpretation has become the basis of some important recent developments in the study of *wh*-questions.

The *Handbook of Japanese Semantics and Pragmatics* presents a collection of studies on linguistic meaning in Japanese, either as conventionally encoded in linguistic form (the field of semantics) or as generated by the interaction of form with context (the field of pragmatics). The studies are organized around a model that has long currency in traditional Japanese grammar, whereby the linguistic clause consists of a multiply nested structure centered in a propositional core of objective meaning around which forms are deployed that express progressively more subjective meaning as one moves away from the core toward the periphery of the clause. Following this model, the topics treated in this volume range from aspects of meaning associated with the propositional core, including elements of meaning structured in lexical units (lexical semantics), all the way to aspects of meaning that are highly subjective, being most grounded in the context of the speaker. In between these two poles of the semantics-pragmatics continuum are elements of meaning that are defined at the level of propositions as a whole or between different propositions (propositional logic) and forms that situate propositions in time as events and those situating events in reality including non-actual worlds, e.g., those hoped for (desiderative meaning), denied (negation), hypothesized (conditional meaning), or viewed as ethically or epistemologically possible or necessary (epistemic and deontic modality). Located yet closer to the periphery of the Japanese clause are a rich array of devices for marking propositions according to the degree to which the speaker is committed to their veracity, including means that mark differing perceptual and cognitive modalities and those for distinguishing information variously presupposed.

These studies in Japanese syntax and semantics are augmented by cross-linguistic studies that examine various topics in these fields from the perspectives of language

universals and the comparative study of Japanese and another language. The ***Handbook of Japanese Contrastive Linguistics*** sets as its primary goal uncovering principled similarities and differences between Japanese and other languages around the globe and thereby shedding new light on the universal and language-particular properties of Japanese. Topics ranging from inalienable possession to numeral classifiers, from spatial deixis to motion typology, and from nominalization to subordination, as well as topics closely related to these phenomena are studied in the typological universals framework. Then various aspects of Japanese such as resultative-progressive polysemy, entailment of event realization, internal-state predicates, topic constructions, and interrogative pronouns, are compared and contrasted with individual languages including Ainu, Koryak, Chinese, Korean, Newar, Thai, Burmese, Tagalog, Kapampangan, Lamaholot, Romanian, French, Spanish, German, English, Swahili, Sidaama, and Mayan languages.

## 6 Psycholinguistics and Applied Linguistics

HJLL includes two volumes containing topics related to wider application of Japanese linguistics and to those endeavors seeking grammar-external evidence for the psychoneurological reality of the structure and organization of grammar. By incorporating the recent progress in the study of the cognitive processes and brain mechanisms underlying language use, language acquisition, and language disorder, the ***Handbook of Japanese Psycholinguistics*** discusses the mechanisms of language acquisition and language processing. In particular, the volume seeks answers to the question of how Japanese is learned/acquired as a first or second language, and pursues the question of how we comprehend and produce Japanese sentences. The chapters in the acquisition section allow readers to acquaint themselves with issues pertaining to the question of how grammatical features (including pragmatic and discourse features) are acquired and how our brain develops in the language domain, with respect to both language-particular and universal features. Specific topics dealt with include Japanese children's perceptual development, the conceptual and grammatical development of nouns, Japanese specific language impairment, narrative development in the L1 cognitive system, L2 Japanese acquisition and its relation to L1 acquisition. The language processing section focuses on both L1 and L2 Japanese processing and covers topics such as the role of prosodic information in production/comprehension, the processing of complex grammatical structures such as relative clauses, the processing issues related to variable word order, and lexical and sentence processing in L2 by speakers of a different native language.

The ***Handbook of Japanese Applied Linguistics*** complements the Psycholinguistics volume by examining language acquisition from broader sociocultural per-

spectives, i.e., language as a means of communication and social behavioral system, emphasizing pragmatic development as central to both L1 and L2 acquisition and overall language/human development. Topics approached from these perspectives include the role of caregiver's speech in early language development, literacy acquisition, and acquisition of writing skills. Closely related to L1 and L2 acquisition/development are studies of bilingualism/multilingualism and the teaching and learning of foreign languages, including Japanese as a second language, where topics discussed include cross-lingual transfer from L1 to L2, learning errors, and proficiency assessment of second language acquisition. Chapters dealing with topics more squarely falling in the domain of applied linguistics cover the issues in corpus/computational linguistics (including discussions on CHILDES for Japanese and the KY corpus widely-used in research on Japanese as a second language), clinical linguistics (including discussions on language development in children with hearing impairment and other language disorders, with Down syndrome, or autism), and translation and interpretation. Technically speaking, Japanese Sign Language is not a variety of Japanese. However, in view of the importance of this language in Japanese society and because of the rapid progress in sign language research in Japan and abroad and what it has to offer to the general theory of language, chapters dealing with Japanese Sign Language are also included in this volume.

## 7 Grammatical Sketch of Standard Japanese

The following pages offer a brief overview of Japanese grammar as an aid for a quick grasp of the structure of Japanese that may prove useful in studying individual, thematically organized handbooks of this series. One of the difficult problems in presenting non-European language materials using familiar technical terms derived from the European grammatical tradition concerns mismatches between what the glosses may imply and what grammatical categories they are used to denote in the description. We will try to illustrate this problem below as a way of warning not to take all the glosses at their face value. But first some remarks are in order about the conventions of transcription of Japanese, glossing of examples, and their translations used in this series.

### 7.1 Writing, alphabetic transcription, and pronunciation

Customarily, Japanese is written by using a mixture of Chinese characters (for content words), *hiragana* (for function words such as particles, suffixes and inflectional endings), *katakana* (for foreign loans and mimetics), and sometimes Roman alphabet.

Because Japanese had no indigenous writing system, it developed two phonogram systems of representing a phonological unit of “mora”, namely *hiragana* and *katakana*, by simplifying or abbreviating (parts of) Chinese characters. *Hiragana* and *katakana* syllabaries are shown in Table 1, together with the alphabetic transcriptions adopted in the HJLL series.

**Table 1:** *Alphabetic transcriptions adopted in HJLL*

transcription	<i>a</i>	<i>ka</i>	<i>sa</i>	<i>ta</i>	<i>na</i>	<i>ha</i>	<i>ma</i>	<i>ya</i>	<i>ra</i>	<i>wa</i>	<i>n</i>
<i>hiragana</i>	あ	か	さ	た	な	は	ま	や	ら	わ	ん
<i>katakana</i>	ア	カ	サ	タ	ナ	ハ	マ	ヤ	ラ	ワ	ン
transcription	<i>i</i>	<i>ki</i>	<i>si</i>	<i>ti</i>	<i>ni</i>	<i>hi</i>	<i>mi</i>	–	<i>ri</i>	–	
<i>hiragana</i>	い	き	し	ち	に	ひ	み	–	り	–	
<i>katakana</i>	イ	キ	シ	チ	ニ	ヒ	ミ	–	リ	–	
transcription	<i>u</i>	<i>ku</i>	<i>su</i>	<i>tu</i>	<i>nu</i>	<i>hu</i>	<i>mu</i>	<i>yu</i>	<i>ru</i>	–	
<i>hiragana</i>	う	く	す	つ	ぬ	ふ	む	ゆ	る	–	
<i>katakana</i>	ウ	ク	ス	ツ	ヌ	フ	ム	ユ	ル	–	
transcription	<i>e</i>	<i>ke</i>	<i>se</i>	<i>te</i>	<i>ne</i>	<i>he</i>	<i>me</i>	–	<i>re</i>	–	
<i>hiragana</i>	え	け	せ	て	ね	へ	め	–	れ	–	
<i>katakana</i>	エ	ケ	セ	テ	ネ	ヘ	メ	–	レ	–	
transcription	<i>o</i>	<i>ko</i>	<i>so</i>	<i>to</i>	<i>no</i>	<i>ho</i>	<i>mo</i>	<i>yo</i>	<i>ro</i>	<i>o</i>	
<i>hiragana</i>	お	こ	そ	と	の	ほ	も	よ	ろ	を	
<i>katakana</i>	オ	コ	ソ	ト	ノ	ホ	モ	ヨ	ロ	ヲ	

Because of phonological change, the columns indicated by strikethroughs have no letters in contemporary Japanese, although they were filled in with special letters in classical Japanese. If all the strikethroughs were filled, the chart will contain 50 letters for each of *hiragana* and *katakana*, so the syllabary chart is traditionally called *Gojū-on zu* (chart of 50 sounds). To these should be added the letter ん or ン representing a moraic nasal [N], on the rightmost column.

The “50-sound chart”, however, does not exhaust the *hiragana* and *katakana* letters actually employed in Japanese, because the basic consonant sounds (*k*, *s*, *t*, *h*) have variants. The sound represented by the letter *h* is historically related to the sound represented by *p*, and these voiceless obstruents (*k*, *s*, *t*, and *p*) have their respective voiced counterparts (*g*, *z*, *d*, and *b*). Table 2 shows letters for these consonants followed by five vowels.



**Table 2:** Letters for voiced obstruents and bilabial [p]

transcription	<i>ga</i>	<i>za</i>	<i>da</i>	<i>ba</i>	<i>pa</i>
<i>hiragana</i>	が	ざ	だ	ば	ぱ
<i>katakana</i>	ガ	ザ	ダ	バ	パ
transcription	<i>gi</i>	<i>zi</i>	<i>di</i>	<i>bi</i>	<i>pi</i>
<i>hiragana</i>	ぎ	じ	ぢ	び	ぴ
<i>katakana</i>	ギ	ジ	ヂ	ビ	ピ
transcription	<i>gu</i>	<i>zu</i>	<i>du</i>	<i>bu</i>	<i>pu</i>
<i>hiragana</i>	ぐ	ず	づ	ぶ	ぷ
<i>katakana</i>	グ	ズ	ヅ	ブ	プ
transcription	<i>ge</i>	<i>ze</i>	<i>de</i>	<i>be</i>	<i>pe</i>
<i>hiragana</i>	げ	ぜ	で	べ	ぺ
<i>katakana</i>	ゲ	ゼ	デ	ベ	ペ
transcription	<i>go</i>	<i>zo</i>	<i>do</i>	<i>bo</i>	<i>po</i>
<i>hiragana</i>	ご	ぞ	ど	ぼ	ぽ
<i>katakana</i>	ゴ	ゾ	ド	ボ	ポ

It is important to note that Tables 1 and 2 show the conventional letters and alphabetical transcription adopted by the HJLL series; they are not intended to represent the actual pronunciations of Japanese vowels and consonants. For example, among the vowels, the sound represented as “u” is pronounced as [u] with unrounded lips. Consonants may change articulation according to the following vowels. Romanization of these has been controversial with several competing proposals.

There are two Romanization systems widely used in Japan. One known as the Hepburn system is more widely used in public places throughout Japan such as train stations, street signs, as well as in some textbooks for learners of Japanese. This system is ostensibly easier for foreigners familiar with the English spelling system. The *Kunreishiki* (the cabinet ordinance system) is phonemic in nature and is used by many professional linguists. The essential differences between the two Romanization systems center on palatalized and affricate consonants, as shown in Table 3 below by some representative syllables for which two Romanization renditions differ:

**Table 3:** *Two systems of Romanization*

Hiragana	IPA	Hepburn	Kunreishiki
し	[ʃi]	shi	si
しゃ	[ʃa]	sha	sya
しゅ	[ʃɯ]	shu	syu
しょ	[ʃo]	sho	syo
じ and ぢ	[dʒi]	ji	zi
じゃ	[dʒa]	ja	zya
じゅ	[dʒɯ]	ju	zyu
じょ	[dʒo]	jo	zyo
ち	[tʃi]	chi	ti
ちゃ	[tʃa]	cha	tya
ちゅ	[tʃɯ]	chu	tyu
ちょ	[tʃo]	cho	tyo
つ	[tsw]	tsu	tu
づ and ず	[dzw]	zu	zu
ふ	[ɸɯ]	fu	hu

Except for the volumes on Ryukyuan, Ainu, and Japanese dialects, whose phonetics differ from Standard Japanese, HJLL adopts the Kunreishiki system for rendering cited Japanese words and sentences but uses the Hepburn system for rendering conventional forms such as proper nouns and technical linguistic terms in the text and in the translations of examples.

The cited Japanese sentences in HJLL look as below, where the first line transliterates a Japanese sentence in Kunreishiki Romanization, the second line contains interlinear glosses largely following the Leipzig abbreviation convention, and the third line is a free translation of the example sentence.

- (1) *Taroo wa Ziroom to Tookyoo e it-te kutusita o kat-ta.*  
 Taro TOP Jiro COM Tokyo ALL go-GER sock ACC buy-PST  
 ‘Taro went to Tokyo with Jiro and bought socks.’

The orthographic convention of rendering Japanese is to represent a sentence with an uninterrupted sequence of Sino-Japanese characters and *katakana* or *hiragana* syllabaries without a space for word segmentation, as in 太郎は次郎と東京へ行って靴下を買った for (1). In line with the general rules of Romanization adopted in

books and articles dealing with Japanese, however, HJLL transliterates example sentences by separating word units by spaces. The example in (1) thus has 10 words. Moreover, as in *it-te* (go-GERUNDIVE) and *kat-ta* (buy-PAST) in (1), word-internal morphemes are separated by a hyphen whenever necessary, although this practice is not adopted consistently in all of the HJLL volumes. Special attention should be paid to particles like *wa* (topic), *to* ‘with’ and *e* ‘to, toward’, which, in the HJLL representation, are separated from the preceding noun or noun phrase by a space (see section 7.3). Remember that case and other kinds of particles, though spaced, form phrasal units with their preceding nouns.

## 7.2 Word order

As seen in (1), Japanese is a verb-final, dependent-marking agglutinative language. It is basically an SOV language, which marks the nominal dependent arguments by particles (*wa*, *to*, *e*, and *o* above), and whose predicative component consists of a verbal-stem, a variety of suffixes, auxiliary verbs, and semi-independent predicate extenders pertaining to the speech act of predication (see section 7.6). While a verb is rigidly fixed in sentence final position, the order of subject and object arguments may vary depending on pragmatic factors such as emphasis, background information, and cohesion. Thus, sentence (2a) with the unmarked order below, in principle, may vary in multiple ways as shown by some possibilities in (2b)–(2d).

- (2) a. *Taroo ga Hanako ni Ziroo o syookai-si-ta.*  
       Taro   NOM Hanako   DAT Jiro   ACC introducing-do-PST  
       ‘Taro introduced Jiro to Hanako.’  
       b. *Taroo ga **Ziroo o** Hanako ni syookai-si-ta.*  
       c. ***Hanako ni** Taroo ga Ziroo o syookai-si-ta.*  
       d. ***Ziroo o** Taroo ga Hanako ni syookai-si-ta.*

Adverbs, likewise, can be rather freely placed, though each type of adverbs has its basic position.

- (3) a. ***Saiwainimo** Hanako ga gohan o tai-te kure-te i-ta.*  
       luckily       Hanako   NOM rice   ACC cook-GER GIVE-GER BE-PST  
       ‘Luckily Hanako had done the favor of cooking the rice (for us).’  
       b. *Hanako ga **saiwainimo** gohan o tai-te kure-te i-ta.*  
       c. *Hanako ga gohan o **saiwainimo** tai-te kure-te i-ta.*

Notice that while the verbal complex in the sentence above is not as tightly organized as a complex involving suffixes, a sentence adverb cannot be placed within the verbal complex, showing that the sequence of *tai-te kure-te i-ta* forms a tighter constituent,

which, however, permits insertion of the topic particle *wa* after each of the gerundive forms. (See section 7.4 below on the nature of gerundive forms in Japanese.)

As the normal position of sentence adverbs is sentence initial, manner and resultative adverbs have an iconically-motivated position, namely before and after the object noun phrase, respectively, as below, though again these adverbs may move around with varying degrees of naturalness:

- (4) *Hanako ga isoide gohan o tai-te kure-ta.*  
 Hanako NOM hurriedly rice ACC cook-GER GIVE-PST  
 ‘Hanako did the favor of cooking the rice hurriedly (for us).’
- (5) *Hanako ga gohan o yawarakaku tai-te kure-ta.*  
 Hanako NOM rice ACC softly cook-GER GIVE-PST  
 ‘Hanako did the favor of cooking the rice soft (for us).’

The fact that an object noun phrase can be easily separated from the verb, as in (2b.d), and that adverbs can freely intervene between an object and a verb, as in (5), has raised the question whether Japanese has a verb phrase consisting of a verb and an object noun phrase as a tightly integrated constituent parallel to the VP in English (cf. \**cook hurriedly the rice* – the asterisk marks ungrammatical forms).

### 7.3 NP structure

Noun phrases, when they occur as arguments or adjuncts, are marked by case particles or postpositions that are placed after their host nouns. Because case markers can be set off by a pause, a filler, or even longer parenthetical material, it is clear that they are unlike declensional affixes in inflectional languages like German or Russian. Their exact status, however, is controversial; some researchers regard them as clitics and others as (non-independent) words.

Elaboration of Japanese noun phrases is done by prenominal modifiers such as a demonstrative, a genitive noun phrase, or an adjective, as below, indicating that Japanese is a consistent head-final language at both nominal and clausal levels.

- (6) a. *kono Taroo no kaban*  
       this Taro GEN bag  
       lit. ‘this Taro’s bag’
- b. *Taroo no kono kaban*  
       Taro GEN this bag  
       lit. ‘Taro’s this bag’

Japanese lacks determiners of the English type that “close off” NP expansion. The literal translations of the Japanese forms above are ungrammatical, indicating that English determiners like demonstratives and genitive noun phrases do not allow further expansion of an NP structure. Also seen above is the possibility that prenominal modifiers can be reordered just like the dependents at the sentence level. The order of prenominal modifiers, however, is regulated by the iconic principle of placing closer to the head noun those modifiers that have a greater contribution in specifying the nature and type of the referent. Thus, descriptive adjectives tend to be placed closer to a head noun than demonstratives and genitive modifiers of non-descriptive types. Interesting is the pattern of genitive modifiers, some of which are more descriptive and are placed closer to the head noun than others. Genitives of the same semantic type, on the other hand, can be freely reordered. Compare:

- (7) a. *Yamada-sensei no kuroi kaban*  
 Yamada-professor GEN black bag  
 ‘Professor Yamada’s black bag’  
 b. \**kuroi Yamada-sensei no kaban*  
 (O.K. with the reading of ‘a bag of Professor Yamada who is black’)
- (8) a. *Yamada-sensei no gengogaku no koogi*  
 Yamada-professor GEN linguistics GEN lecture  
 ‘Professor Yamada’s linguistics lecture’  
 b. \**gengogaku no Yamada-sensei no koogi*  
 (O.K. with the reading of ‘a lecture by Professor Yamada of linguistics’)
- (9) a. *Yamada-sensei no kinoo no koogi*  
 Yamada-professor GEN yesterday GEN lecture  
 lit. ‘Professor Yamada’s yesterday’s lecture’ ‘Yesterday’s lecture by Professor Yamada’  
 b. *Kinoo no Yamada-sensei no koogi*
- (10) a. *oomori no sio-azi no raamen*  
 big.serving GEN salt-tasting GEN ramen  
 lit. ‘big-serving salt-tasting ramen noodles’  
 b. *sio-azi no oomori no raamen*
- (11) a. *atui sio-azi no raamen*  
 hot salt-tasting GEN ramen  
 ‘hot salt-tasting ramen noodles’  
 b. *sio-azi no atui ramen*

Numeral classifiers (CLFs) pattern together with descriptive modifiers so that they tend to occur closer to a head noun than a possessive genitive phrase.

- (12) a. *Taroo no san-bon no enpitu*  
           Taro GEN three-CLF GEN pencil  
           ‘Taro’s three pencils’  
       b. \**san-bon no Taroo no enpitu*

Numeral classifiers also head an NP, where they play a referential function and where they can be modified by a genitive phrase or an appositive modifier, as in (13a.b). They may also “float” away from the head noun and become adverbial, as in (13c).

- (13) a. *Taroo wa gakusei no san-nin o mikake-ta.*  
           Taro TOP student GEN three-CLF ACC see.by.chance-PST  
           ‘Taro saw three of students by chance.’  
       b. *Taroo wa gakusei san-nin o mikake-ta.*  
           Taro TOP student three-CLF ACC see.by.chance-PST  
           lit. ‘Taro saw student-threes by chance.’  
       c. *Taroo wa gakusei o san-nin mikake-ta.*  
           Taro TOP student ACC three-CLF see.by.chance-PST  
           ‘Taro saw students, three (of them), by chance.’

As in many other SOV languages, the so-called relative clauses are also prenominal and are directly placed before their head nouns without the mediation of “relative pronouns” like the English *which* or *who* or “complementizers” like *that*. The predicates in relative clauses are finite, taking a variety of tense and aspect. The subject may be replaced by a genitive modifier. Observe (14a).

- (14) a. *Boku mo [Taroo ga/no kat-ta] hon o kat-ta.*  
           I ADVPART Taro NOM/GEN buy-PST book ACC buy-PST  
           ‘I also bought the book which Taro bought.’  
       b. *Boku mo [Taroo ga/no kat-ta] no o kat-ta.*  
           I ADVPART Taro NOM/GEN buy-PST NM ACC buy-PST  
           ‘I also bought the one which Taro bought.’

The structure used as a modifier in the relative clause construction can also head a noun phrase, where it has a referential function denoting an entity concept evoked by the structure. In Standard Japanese such a structure is marked by the nominalization particle *no*, as in (14b).

## 7.4 Subject and topic

Some of the sentences above have noun phrases marked by the nominative case particle *ga* and some by the topic marker *wa* for what appear to correspond to the subject noun phrases in the English translations. This possibility of *ga*- and *wa*-marking is seen below.

- (15) a. *Yuki ga siro-i.*  
           snow NOM white-PRS  
           ‘The snow is white.’
- b. *Yuki wa siro-i.*  
           snow TOP white-PRS  
           ‘Snow is white.’

As the difference in the English translations indicates, these two sentences are different in meaning. Describing the differences between topic and non-topic sentences has been a major challenge for Japanese grammarians and teachers of Japanese alike. The difference in the English translations above, however, is indicative of how these two sentences might differ in meaning. Sentence (15a) describes a state of affairs involving specific snow just witnessed, whereas (15b) is a generic statement about a property of snow unbounded by time. Thus, while (15a) would be uttered only when the witnessed snow is indeed white, (15b) would be construed true even though we know that there are snow piles that are quite dirty.

A similar difference is seen in verbal sentences as well.

- (16) a. *Tori ga tob-u.*  
           bird NOM fly-PRS  
           ‘A bird is flying/is about to fly.’
- b. *Tori wa tob-u.*  
           bird TOP fly-PRS  
           ‘Birds fly.’

Non-topic sentences like (15a) and (16a) are often uttered with an exclamation accompanying a sudden discovery of a state of affairs unfolding right in front of one’s eyes. The present tense forms (*-i* for adjectives and *-(r)u* for verbs) here anchor the time of this discovery to the speech time. The present tense forms in (15b) and (16b), on the other hand, mark a generic tense associated with a universal statement.

These explanations can perhaps be extended to a time-bound topic sentence seen in (17b) below.

- (17) a. *Taroo ga hasit-ta.*  
 Taro NOM run-PST  
 ‘Taro NOM ran.’
- b. *Taroo wa hasit-ta.*  
 Taro TOP run-PST  
 ‘Taro ran.’

That is, while (17a) reports an occurrence of a particular event at a time prior to the speech time, (17b) describes the nature of the topic referent – that Taro was engaged in the running activity – as a universal truth of the referent, but universal only with respect to a specifically bound time marked by the past tense suffix.

Topics need not be a subject, and indeed any major sentence constituent, including adverbs, may be marked topic in Japanese, as shown below.

- (18) a. *Sono hon wa Taroo ga yon-de i-ru.*  
 that book TOP Taro NOM read-GER BE-PRS  
 ‘As for that book, Taro is reading (it).’
- b. *Kyoo wa tenki ga yo-i.*  
 today TOP weather NOM good-PRS  
 ‘As for today, the weather is good.’
- c. *Sonnani wa hayaku wa hasir-e na-i.*  
 that.way TOP quickly TOP run-POTEN NEG-PRS  
 ‘That quickly, (I) cannot run.’

## 7.4 Complex sentences

As in many Altaic languages, compound sentences in Japanese do not involve a coordinate conjunction like English *and*. Instead, clauses are connected by the use of inflected verb forms, as in (19a) below, where the *-i* ending is glossed in the HJLL series as either INF (infinitive) or ADVL (adverbial) following the Japanese term *ren'yō-kei* for the form. While the *-i* ending in the formation of compound sentences is still used today, especially in writing, the more commonly used contemporary form involves a conjunctive particle *-te* following the *-i* infinitive form, as in (19b) below. In HJLL, this combination is glossed as GER (gerundive), though the relevant Japanese forms do not have the major nominal use of English gerundive forms.

- (19) a. *Hana wa sak-i, tori wa uta-u.*  
 flower TOP bloom-INF bird TOP sing-PRS  
 ‘Flowers bloom and birds sing.’



- b. *Hana wa sa.i-te, tori wa uta-u.*  
 flower TOP bloom-GER bird TOP sing-PRS  
 ‘Flowers bloom and birds sing.’

Both the *-i* and *-te* forms play important roles in Japanese grammar. They are also used in clause-chaining constructions for serial events (20a), and in complex sentences (20b)–(20d), as well as in numerous compound verbs (and also in many compound nouns) such as *sak-i hokoru* (bloom-INF boast) ‘be in full bloom’, *sak-i tuzukeru* (bloom-INF continue) ‘continue blooming’, *sa.i-te iru* (bloom-GER BE) ‘is blooming’, and *sa.i-te kureru* (bloom-GER GIVE) ‘do the favor of blooming (for me/us)’.

- (20) a. *Taroo wa [ok-i/ok.i-te], [kao o ara-i/arat-te],*  
 Taro TOP rise-INF/rise-GER face ACC wash-INF/wash-GER  
*[gohan o tabe-ta].*  
 meal ACC eat.PST  
 ‘Taro got up, washed his face, and ate a meal.’
- b. *Taroo wa [sakana o tur-i] ni it-ta.*  
 Taro TOP fish ACC catch-INF DAT go-PST  
 ‘Taro went to catch fish.’
- c. *Taroo wa [aruk-i nagara] hon o yon-da.*  
 Taro TOP walk-INF SIMUL book ACC read-PST  
 ‘Taro read a book while walking.’
- d. *Taroo wa [Hanako ga ki-ta no] ni awa-na-katta.*  
 Taro TOP Hanako NOM come-PST NM DAT see-NEG-PST.  
 ‘Taro did not see (her), even though Hanako came.’

(20d) has the nominalized clause marked by the particle *no* followed by the dative *ni*, also seen in (20b) marking the purposive form. Now the *no-ni* sequence has been reanalyzed as a concessive conjunction meaning ‘even though’.

## 7.5 Context dependency

The context dependency of sentence structure in Japanese is much more clearly pronounced than in languages like English. Indeed, it is rare that Japanese sentences express all the arguments of a verb such as a subject (or topic) and an object noun phrase included in the sentences used above for illustrative purposes. A typical dialog would take the following form, where what is inferable from the speech context is not expressed.

- (21) a. Speaker A: *Tokorode, Murakami Haruki no saisin-saku yon-da ka.*  
                   by.the.way Murakami Haruki GEN newest-work read-PST Q  
                   ‘By the way, have (you) read Haruki Murakami’s latest work?’
- b. Speaker B: *Un, moo yon-da.*  
                   uh-hu already read-PST  
                   ‘Uh-hu, (I) already read (it)’.

In (21a) A’s utterance is missing a subject noun phrase referring to the addressee, and B’s response in (21b) is missing both subject and object noun phrases. In some frameworks, sentences like these are analyzed as containing zero pronouns or as involving a process of “pro drop”, which deletes assumed underlying pronouns. This kind of analysis, however, ignores the role of speech context completely and incorporates information contextually available into sentence structure. In an analysis that takes seriously the dialogic relationship between speech context and sentence structure, the expressions in (21) would be considered full sentences as they are.

## 7.6 Predicative verbal complexes and extenders

Coding or repeating contextually determinable verb phrases, as in (21b), is less offensive than expressing contextually inferable noun phrases presumably because verb phrases have the predication function of assertion, and because they also code a wide range of other types of speech acts and of contextual information pertaining to the predication act. Declarative sentences with plain verbal endings like the one in (21b) are usable as “neutral” expressions in newspaper articles and literary works, where no specific reader is intended. In daily discourse, the plain verbal forms “explicitly” code the speaker’s attitude toward the hearer; namely, that the speaker is treating the hearer as his equal or inferior in social standing, determined primarily by age, power, and familiarity. If the addressee were socially superior or if the occasion demanded formality, a polite, addressee honorific form with the suffix *-masu* would be used, as below.

- (22) *Hai, moo yom-i-masi-ta.*  
       yes already read-INF-POL-PST  
       ‘Yes, (I have) already read (it).’

The referent honorific forms are used when the speaker wishes to show deference toward the referent of arguments – subject honorific and object honorific (or humbling) forms depending on the type of argument targeted. If (21b) were to be uttered in reference to a social superior, the following would be more appropriate:

- (23) *Un, (Yamada-sensei wa) moo yom-are-ta.*  
 uh-hu (Yamada-professor TOP) already read-SUB.HON-PST  
 ‘Uh-hu, (Professor Yamada has) already read (it).’

This can be combined with the polite ending *-masu*, as below, where the speaker’s deference is shown to both the referent of the subject noun phrase and the addressee:

- (24) *Hai, (Yamada-sensei wa) moo yom-are-masi-ta.*  
 Yes (Yamada-professor TOP) already read-HON-POL-PST  
 ‘Yes, (Professor Yamada has) already read (it).’

As these examples show, Japanese typically employs agglutinative suffixes in the elaboration of verbal meanings associated with a predication act. The equivalents of English auxiliary verbs are either suffixes or formatives connected to verb stems and suffixed forms in varying degrees of tightness. These are hierarchically structured in a manner that expresses progressively more subjective and interpersonal meaning as one moves away from the verb-stem core toward the periphery. For example, in the following sentence a hyphen marks suffixal elements tightly bonded to the preceding form, an equal sign marks a more loosely connected formative, which permits insertion of certain elements such as the topic particle *wa*, and a space sets off those elements that are independent words following a finite predicate form, which may terminate the utterance.

- (25) *(Taroo wa) ik-ase-rare-taku=na-katta rasi-i mitai des-u wa.*  
 (Taro TOP) go-CAUS-PASS-DESI=NEG-PST CONJEC-PRS UNCERT POLCOP-PRS SFP  
 ‘(Taro) appears to seem to not want to have been forced to go, I tell you.’

The final particle *wa* above encodes the information that the speaker is female. A male speaker would use *yo* or *da yo*, the latter a combination of the plain copula and *yo*, instead of *desu wa* above, or combinations such as *da ze* and *da zo* in rough speech.

Non-declarative Japanese sentences, on the other hand, frequently suppress auxiliary verbs, the copula, and the question particle especially in casual speech, where intonation and tone of voice provide clues in guessing the intended speech act. Casual interrogatives take the form of (26a) with a nominalization marker bearing a rising intonation, marked by the question mark in the transcription, whereas fuller versions have the interrogative particle *ka* or a combination of the polite copula and *ka*, as in (26b).

- (26) a. *Moo kaeru no?*  
 already return NM  
 ‘Going home already?’

- b. *Moo kaeru no (desu) ka.*  
 already return NM (POLCOP) Q  
 ‘Going home already?’

Requests are made with the aid of an auxiliary-like “supporting” verb *kureru* ‘GIVE (ME THE FAVOR OF. . .)’, its polite form *kudasai*, or its intimate version *tyoodai*, as seen in (27a). Again, these forms are often suppressed in a highly intimate conversation and may result in a form like (27b).

- (27) a. *Hayaku kaet-te kure/kudasai/tyoodai.*  
 soon return-GER GIVE/GIVE.POL/GIVE.INTI  
 ‘(Please) come home soon (for me/us).’  
 b. *Hayaku kaet-te ne.*  
 soon return-GER SFP  
 ‘(Please) come home soon, won’t you?’

The use of dependent forms (e.g., the gerundive *-te* form above) as independent sentences is similar to that of subjunctive forms of European languages as independent sentences, as illustrated by the English sentence below.

- (28) *If you would give me five thirty-cent stamps.*

Conditionals are used as independent suggestion sentences in Japanese as well. For example, (29a) has a fuller version like (29b) with the copula as a main-clause verb, which can also be suppressed giving rise to the truncated form (29c).

- (29) a. *Hayaku kaet-tara?*  
 quickly return-COND  
 lit. ‘If return quickly.’ ‘Why don’t you go home quickly?’  
 b. *Hayaku kaet-tara ikaga desu ka.*  
 quickly return-COND how POLCOP Q  
 lit. ‘How is it if (you) went home quickly?’  
 c. *Hayaku kaet-tara ikaga?*  
 quickly return-COND how  
 ‘Why don’t (you) go home quickly?’

Understanding Japanese utterances requires full recourse to the elements of speech context, such as the nature of the speaker and the hearer and the social relationship between them, the information “in the air” that is readily accessible to the interlocutors, and the formality of the occasion. Indeed, the difficult part of the art of

speaking Japanese is knowing how much to leave out from the utterance and how to infer what is left unsaid.

## 8 Conclusion

Many of the interesting topics in Japanese grammar introduced above are discussed in great detail in the Lexicon-Word formation handbook and the Syntax volume. The Historical handbook also traces developments of some of the forms and constructions introduced above. The Sociolinguistics volume gives fuller accounts of the sentence variations motivated by context and discourse genre.

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## Appendix: List of abbreviations for HJLL

1	first person
2	second person
3	third person
A	agent-like argument of canonical transitive verb
ABL	ablative
ACC	accusative
ACOP	adjectival copula
ADJ	adjective
ADN	adnominal
ADV	adverb(ial(izer))
ADVL	adverbial
ADVPART	adverbial particle
AGR	agreement
AGT	agent
ALL	allative
AN	adjectival noun

ANTIP	antipassive
AP	adverbial particle, adjective phrase
APPL	applicative
ART	article
ASP	aspect
ATTR	attributive
AUX	auxiliary
AUXV	auxiliary verb
C	consonant
CAUS	causative
CLF	classifier
COHORT	cohortative
COM	comitative
COMP	complementizer
COMPL	completive
CONC	concessive
CONCL	conclusive
COND	conditional
CONJEC	conjectural
CONJCT	conjunctive
CONT	continuative
COP	copula
CVB	converb
DAT	dative
D	demonstrative
DECL	declarative
DEF	definite
DEM	demonstrative
DET	determiner
DESI	desiderative
DIST	distal
DISTR	distributive
DO	direct object
DU	dual
DUR	durative
EMPH	emphatic
ERG	ergative
ETOP	emphatic topic
EVID	evidential
EXCL	exclamatory, exclusive
EXPL	expletive
FOC	focus

FUT	future
GEN	genitive
GER	gerund(ive)
H	high (tone or pitch)
HON	honorific
HUM	humble
IMP	imperative
INCL	inclusive
IND	indicative
INDEF	indefinite
INF	infinitive
INS	instrumental
INT	intentional
INTERJEC	interjection
INTI	intimate
INTR	intransitive
IO	indirect object
IRR	irrealis
ITERA	iterative
k-irr	k-irregular ( <i>ka-hen</i> )
L	low (tone or pitch)
LB	lower bigrade ( <i>shimo nidan</i> )
LM	lower monograde ( <i>shimo ichidan</i> )
LOC	locative
MPST	modal past
MVR	mid vowel raising
N	noun
n-irr	n-irregular ( <i>na-hen</i> )
NCONJ	negative conjunctual
NEC	neccessitive
NEG	negative
NM	nominalization marker
NMLZ	nominalization/nominalizer
NMNL	nominal
NOM	nominative
NONPST	nonpast
NP	noun phrase
OBJ	object
OBL	oblique
OPT	optative
P	patient-like argument of canonical transitive verb, preposition, post-position

PART	particle
PASS	passive
PCONJ	present conjectural
PERF	perfective
PL	plural
POL	polite
POLCOP	polite copula
POSS	possessive
POTEN	potential
PP	prepositional/postpositional phrase
PRED	predicative
PRF	perfect
PRS	present
PRES	presumptive
PROG	progressive
PROH	prohibitive
PROV	provisional
PROX	proximal/proximate
PST	past
PSTCONJ	past conjectural
PTCP	participle
PURP	purposive
Q	question/question particle/question marker
QD	quadrigrade ( <i>yodan</i> )
QUOT	quotative
r-irr	r-irregular ( <i>ra-hen</i> )
REAL	realis
RECP	reciprocal
REFL	reflexive
RES	resultative
RESP	respect
S	single argument of canonical intransitive verb, sentence
SBJ	subject
SBJV	subjunctive
SFP	sentence final particle
SG	singular
SIMUL	simultaneous
s-irr	s-irregular ( <i>sa-hen</i> )
SPON	spontaneous
SPST	simple past
STAT	stative
TOP	topic



TR	transitive
UB	upper bigrade ( <i>kami-nidan</i> )
UNCERT	uncertain
UM	upper monograde ( <i>kami-ichidan</i> )
V	verb, vowel
VN	verbal noun
VOC	vocative
VOL	volitional
VP	verb phrase

## Languages

ConJ	contemporary Japanese
EMC	Early Middle Chinese
EMJ	Early Middle Japanese
EOJ	Eastern Old Japanese
J-Ch	Japano-Chinese
LMC	Late Middle Chinese
LMJ	Late Middle Japanese
JPN	Japanese
MC	Middle Chinese
MJ	Middle Japanese
MK	Middle Korean
ModJ	Modern Japanese
OC	Old Chinese
OJ	Old Japanese
pJ	proto-Japanese
pK	proto-Korean
SJ	Sino-Japanese
Skt	Sanskrit



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Masayoshi Shibatani, Shigeru Miyagawa, and Hisashi Noda  
**Introduction**

## **Landscape of studies in Japanese grammar**

Before introducing individual contributions to this volume, it seems appropriate to provide a quick bird's-eye view of the major approaches to the study of Japanese grammar, beginning with the oldest framework, known as *Kokugogaku* (national-language study).

The root of the *Kokugogaku* tradition goes back to the middle of the Edo period (1603–1868), when the grammatical study of Classical Japanese was recognized as a field of scholarly interest and value, and which, along with studies in the fields of classical Japanese literature, poetics, Shintoism, history, and geography, formed the backbone in the formation of the *Kokugaku* (national study) school in a movement toward establishing a field of native Japanese studies apart from the then prevailing Chinese studies centered around Confucianism.

Over a period of more than two hundred years, the *Kokugogaku* framework has produced a huge amount of scholarly results of high value in all aspects of the Japanese language, ranging from historical to synchronic studies of different historical periods, from phonetics to the lexicon, from syntax to semantics, and from dialect studies to studies of Modern Standard Japanese, though the emphasis has always been on the historical side, especially on Old, Middle, and Early Modern Japanese.

With an increased number of foreign scholars specializing in Japanese grammatical studies, on the one hand, and a dramatic rise in the number of non-native learners of Japanese, on the other, scholars in the field turned their attention to the study of Modern Japanese, in part out of a need to prepare suitable textbooks for non-native learners of Japanese. In the beginning, those trained in the *Kokugogaku* tradition as well as specialists in European languages like English and Spanish bore the burden of tasks related to teaching Japanese to non-native speakers. However, the establishment of university units devoted to training both teachers and specialist researchers of Japanese as a second language has produced a large number of scholars with interest in Japanese grammar whose training did not include the traditional study of Japanese. This and the nationalistic flavor of the terms *Kokugo* (national language) and *Kokugogaku* (national-language study) led to the establishment of the term *Nihongogaku* (Japanese-language study) some thirty years ago. As opposed to the *Kokugogaku* tradition, the *Nihongogaku* framework mainly focuses on Modern Japanese and on contrastive studies of Japanese with the languages of Europe and Asia. The *Nihongogaku* scholars are perhaps more open and receptive to newer theoretical developments abroad than those who receive training in the *Kokugogaku* tradition, who tend to be less proficient in foreign languages.

Following this general trend, the *Kokugogakkai* (national-language society), established in 1944, changed its name to *Nihongogakkai* (The Society for Japanese Linguistics<sup>1</sup>) in 2004, and its journal *Kokugogaku* (national-language study) became *Nihongo no Kenkyu* (Study of Japanese Language).

In the middle of the 1960's, a handful of Japanese students and a few American scholars started earnest studies of Japanese grammar within the Chomskyan generative grammar framework. Their pioneering works galvanized the field of Japanese syntactic studies and inspired a large number of younger scholars (Japanese and non-Japanese alike) to follow suit with voluminous results, mainly in syntax, but also in phonology, the lexicon, and semantics. Due to the typological differences between English and Japanese, the study of Japanese has been strongly encouraged, with research results widely read and taken seriously by non-Japanese specialists for theoretical interest. As a result, Japanese has become one of the most studied languages along with English in this framework. With a history of more than half a century, generative grammar is now a mature field customarily mentioned in introductory linguistics textbooks as an analytical tool useful in discovering and analyzing grammatical structures. As the chapters on formal syntax in this volume demonstrate, the generative tradition in Japanese linguistics continues strong among the adherents of generative grammar, although its impact on the broader community of Japanese grammatical studies is felt less strongly nowadays. Indeed, newer approaches to linguistics in general and to Japanese grammar in particular have been explored by those who did not practice generative grammar in the first place, as well as by some of those who have turned away from the generative tradition.

By the turn of the century, a sizable quantity of work on Japanese grammar had been produced in the typological and the functional framework, both of which have venerable roots in pre-Saussurean Europe. A broader definition of functionalism in linguistics would subsume typological studies, especially studies that seek functional explanations for crosslinguistic typological variation. While some aspects of the typological approach have been adopted and incorporated in the generative framework<sup>2</sup>, functional linguistics is characterized, and distinguished from generative grammar, by its emphasis on the communicative functions of language and its commitment to offering grammar-external explanations for linguistic phenomena, as opposed to the theory- and grammar-internal explanations of generative grammar. Because of their positioning of grammar within the domain of general cognition, as opposed to the Chomskyan hypothesis of a unique language faculty, and because of their analyses and explanations of grammatical phenomena with reference to cognitive processes such as conceptualization, categorization, image-schema, metaphor,

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<sup>1</sup> Not to be confused with the Linguistic Society of Japan (*Nihon Gengogakkai*), which is a separate organization devoted to general linguistics.

<sup>2</sup> See Fukui (1995), for example.

and metonymy, many functionalists believe that their approaches constitute a genuine cognitive linguistics framework. With the establishment of the Nihon Ninchi Gakkai (Japan Cognitive Science Society) in 1983, cognitive-functional studies of Japanese have become popular in Japan, attracting a large number of younger scholars, as evidenced by the formation of the Nihon Ninchi Gengo Gakkai (Japanese Cognitive Linguistics Association) in 2000.

## This volume

With a history of nearly two hundred and fifty years, summarizing achievements in Japanese grammatical studies is no mean task. Instead of attempting to cover all different approaches and schools of thought, the initial intention of this volume was to focus on works representing the four strands of research efforts briefly reviewed above. However, even this goal turned out to be highly challenging because of various logistic considerations, including preparation of English manuscripts by scholars with little experience in English. The wide range of research topics was another issue, making it impractical for a single volume to cover even a fraction of all the promising results that have been accumulated over the years.

What we decided in the end was to yield ground to other relevant companion volumes in this handbook series, which cover many topics in Japanese syntax and their analysis under different theoretical persuasions. In particular, the *Handbook of Japanese Historical Linguistics* contains a large number of contributions presenting results of research within the *Kokugogaku* tradition. The *Handbook of Japanese Lexicon and Word Formation* includes many papers dealing with issues relating to morphology-syntax interactions. And the *Handbook of Japanese Contrastive Linguistics* is devoted to articles dealing with many central topics in Japanese syntax. This decision made our task easier, allowing us to be selective in our choice of topics and to highlight only those not taken up in these companion volumes. For example, of the two major voice phenomena, we only take up passive constructions because the contrastive volume has a major contribution on causative constructions. Studies within the *Kokugogaku* and the *Nihongogaku* traditions receive less attention in this volume, as they are well represented in the other volumes mentioned. Below is a brief introduction to the topics and the orientations of the papers appearing in this volume.

## Nitta

Yoshio Nitta, originally trained in the *Kokugogaku* tradition, has been developing his own framework of grammatical analysis focusing on the interconnectedness between sentence types and the structural elements forming sentences. In his own words, “[t]he type of the sentence affects its internal structure, and affects the types

of grammatical categories that can appear in a sentence and how the grammatical meaning associated with the grammatical categories is realized.”

Nitta elaborates on this kind of connection between sentence types and their internal elements by dividing sentences into the following types: freestanding word sentences and predicate sentences. The latter is subdivided into several subtypes depending on the parts of speech forming their predicates – verbal sentences, adjectival sentences, and nominal sentences. In terms of the events described, predicate sentences are divided into action sentences, stative sentences, and attributive sentences. And from the perspective of communicative function, sentences can be divided into declarative, interrogative, imperative, and purposive. The paper also touches on several central issues in Japanese grammar including the layered structuring of sentential elements, a topic taken up separately by Isao Iori in his contribution to this volume.

## Jacobsen

The notion of transitivity and its morphological and syntactic manifestations have been one of the perennial problems addressed in a variety of frameworks from the founding days of the *Kokugogaku* tradition all the way to the present day in the frameworks of generative grammar and functional typology. While modern studies tend to focus on individual issues centering on the morphological marking patterns of transitive-intransitive verb pairs, on causative constructions, on passive constructions, on the typology of ditransitive constructions, etc., MOTO'ORI Haruniwa, in his pioneering work *Kotoba no kayoji* (Passage to language; 1828), offered a comprehensive scheme of verb classification that distinguishes six categories of: *Onozukara shikaru* (inactive intransitive), *Mizukara shikasuru* (active intransitive), *Mono o shikasuru* (accusative-object transitive), *Ta ni shikasuru* (dative-object transitive), *Ta o sikasuru* (causative), *Onozukara shikaseraruru* (spontaneous), and *Ta ni shikaseraruru* (passive), suggesting that these different manifestations of transitivity and voice must somehow be accounted for in a coherent manner<sup>3</sup>.

Jacobsen first focuses on three dimensions of transitivity correlating with the semantically motivated notion of valency, the syntactic realization of a direct object, and the morphological marking patterns of the transitive-intransitive verb-pairs. Despite these manifestations of transitivity being spread over three areas of grammar, Jacobsen maintains that transitivity is a unitary phenomenon tied together by a common parameter of marking a degree of differentiation between two entities participating in an event. In particular, he offers an analysis based on intentional meaning

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<sup>3</sup> See Shibatani (2006) for a view of issues in transitivity as constituting a part in a larger conceptual framework of voice, addressing these constructions as well as applicatives, benefactives and some others.

that makes reference to an intending entity and an intended event or a participant in the intended resulting event. In other words, the bivalency of a transitive construction is rooted in the underlying intentional meaning. Whether or not syntactic transitivity in terms of the presence of an accusative-marked object materializes depends on the degree of differentiation between the two event participants. In the final section, Jacobsen discusses the relationship between transitivity and voice, examining how the meaning and function of lexical transitive forms interact with those of causative and passive forms.

## Masuoka

Another perennial issue in Japanese grammar, studied throughout the history of grammatical studies both in Japan and abroad, has been explicating the function of the topic particle *wa*. One of the earliest studies on this particle is found in TOGANOI Michitoshi's *Tenihā abikizuna* (1770), which states that *wa* has “the effect of making judgment emphatic or describing an entity by separating [it from others].” FUJITANI Nariakira from the same period tells us that *wa* “separates an entity and makes a judgment [about it]” (*Ayuishō* 1778). Remarkably, these traditional characterizations of the function of *wa* have been echoed in the works of non-native scholars, as seen in W.G. Aston's remark that “[w]a is used not only to isolate or single out one or more objects from a number, but also contrast one object with another” (*A Grammar of the Japanese written language* 1872: 51).

Masuoka takes up this time-honored grammatical problem by contrasting the topic and the subject. From his survey of modern studies on this topic, Masuoka gleanes three perspectives taken in past studies: (a) ones that attempt to understand the nature of the topic and the subject in terms of predication types of “property predication” and “event predication”, (b) efforts to delineate the topic/subject distinction from the perspective of language typology, and (c) those focusing on the communicative function, especially the distinction of known (old)/unknown (new) information.

Masuoka's own views on the problem can be summarized as: (i) The notions of topic and subject derive from the inherent characteristics of the two predication types, property predication and event predication. Sentences of a topic-prominent language like Japanese are based on property predication, whereas a subject-prominent language like English bases the architecture of sentences on event predication. (ii) The notion of topic and that of subject are not mutually exclusive – covert subjects and covert topics are respectively allowed for Japanese and English. (iii) The notion of topic is associated with both cognitive and communicative functions; in languages like Japanese, the former plays a greater role than the latter.

## Noda

In the traditional classification of Japanese particles, the topic *wa* has been classified as a *Kakarijoshi* (binding or concordial particle) or *Fukujoshi* (adverbial particle) along with other particles such as *mo* ‘also’, *koso* ‘especially’ and *dake* ‘only’. A group of modern grammarians some thirty years ago started to study these particles under the rubric of *Toritate* ‘focusing’, including the contrastive use of the topic particle *wa* (but perhaps not its non-contrastive topic use). Noda provides a comprehensive overview of the toritate particles examining their morphological, syntactic, and semantic properties.

Noda identifies the following properties that set toritate particles apart from other types of Japanese particles: (i) A single toritate particle may express multiple meanings, e.g. *mo* marks both similarity and extreme meanings. (ii) Unlike case particles that attach to noun phrases, toritate particles attach to adverbs, subordinate clauses, and predicates, in addition to noun phrases. (iii) Unlike case particles, toritate particles may have co-occurrence restrictions with regard to the verbal categories of tense and modality. Besides a detailed analysis of the syntactic properties of toritate particles, such as the levels of clausal and sentential structure at which different toritate particles interact, Noda offers a semantic scheme consisting of three domains of polar opposites in an attempt to capture the systematic patterns that toritate particles display: Restriction – Anti-restriction (e.g. *dake* ‘only’ – *demo* ‘even if it is’), Extremes – Anti-extremes (e.g. *sae* ‘even’ – *nanka* ‘even though it is’), and Similarity – Anti-similarity (e.g. *mo* ‘also, as well’ – *wa* ‘contrast, unlike the others’).

## Iori

The hierarchical organization of syntactic constituents plays a very important role in generative grammar, as many rules and principles are formulated in terms of hierarchical structures. In functional linguistics, emphasis has been not so much on the structural configuration of sentence structures as on the linear ordering of elements surrounding the predicate form, in particular, the order of a verb stem and accompanying derivational and inflectional morphemes such as those marking valence change, voice, aspect, tense, mood, number, and person (cf. Bybee 1985). Independently from these approaches, Japanese grammarians, since the 1950’s, have been concerned with the layered structuring of sentential elements that largely determines the order of the verb stem and those morphemes marking grammatical categories.

Iori reviews pioneering works of MOTOKI Tokieda and MIKAMI Akira and the major contributions made on this issue by MINAMI Fujio, as well as those by contemporary grammarians who build on Minami’s seminal work in an attempt to refine the model and to garner further insights from it. As mentioned by Iori, the achievements by Japanese grammarians have high relevance to the studies on the



hierarchical representations of linguistic structure attempted in generative grammar (e.g. cartography).

One major insight into the nature of the layered syntactic structure brought out in Minami's work is that those structures higher in rank cannot be embedded below those of a lower rank. The possibility of embedding is found only between those involving structures of the same rank or between an embedding structure at a higher rank and a lower ranked embedded structure. In other words, Minami's is a much more tightly constrained model of syntax than the one entertained in generative grammar, which freely allows embedding of clausal structures higher in rank such as IP and CP below structures of lower rank such as NP/DP and VP.

## Takami and Kuno

The Chomskyan paradigm in linguistics came with a new methodology in linguistic analysis that heavily relies on native-speaker intuition on the grammaticality of isolated sentences often constructed by analysts themselves. As an antidote to this methodology, which is still widely practiced by both Chomskyan and non-Chomskyan linguists today, Susumu Kuno in the 1970's developed his own version of functional linguistics, which contends that syntactic analysis independent of the usage context is untenable since native speaker judgment on constructed sentences crucially depends on grammar-external discourse factors such as functional perspectives, old- and new-information, focus of attention, and evidentiality.

In their contribution to this volume, Takami and Kuno demonstrate with ample examples that currently proposed analyses of various constructions that rely on the grammaticality judgment of isolated sentences and that offer grammar-internal explanations are fundamentally incorrect since grammaticality judgment changes according to the availability of supporting context and because the usage pattern (or the variation in grammaticality judgment) is determined by grammar-external factors. They show, for example, that various accounts that invoke the Unaccusative Hypothesis one way or another in analyzing the purported difference in grammaticality such as seen between (a) and (b) below are all problematic because sentences of the same pattern involving so-called unaccusative verbs are acceptable when framed in particular ways, as in (c), for example.

- (a) *gakusei ni zyugyootyuu ni osyaberi-sareru* (unergative verb)  
'(I) had students chattering during the class'
- (b) *\*genkan no kabin ni warerareru* (unaccusative verb)  
'(I) had the flower vase in the entrance break (on me)'
- (c) *soturon siage no ziki ni pasokon ni kowarerarete...* (unaccusative verb)  
'(I) had my laptop breakdown at the time of completing my graduation thesis'.

Takami and Kuno, after reviewing these issues and summarizing the achievements of Kuno's functional approach, offer an original analysis of *-te aru* constructions (e.g. *mado ga akete aru* 'the window is left open') further demonstrating that past accounts based on grammar-internal factors such as verb semantics (e.g. involvement of change-of-state and change-of-location verbs) are far from adequate. Instead, they offer an analysis based on the following extra-grammatical constraints:

- (i) the speaker (the hearer in the case of interrogative sentences) has direct evidence that the intentional action the verb represents was performed by someone for some future purpose, and that
- (ii) the state caused by the action is significant to the speaker at the moment of speech.

## Iwata

Points similar to those seen in the works of Kuno and Takami are made by Iwata, who asserts that a satisfactory analysis of linguistic phenomena demands not only detailed grammar-internal investigation but also grammar-external explanations. He demonstrates this by looking at the phenomenon known as locative alternation illustrated below:

- a. *kabe ni penki o nuru* (ni-variant)  
wall on paint ACC smear  
'smear paint on the wall'
- a'. *kabe o penki de nuru* (de-variant)  
wall ACC paint with smear  
'smear the wall with paint'
- b. *mizu o hodoo ni maku* (ni-variant)  
water ACC sidewalk on sprinkle  
'sprinkle water on the sidewalk'
- b'. \**hodoo o mizu de maku* (de-variant)  
sidewalk ACC water with sprinkle  
'sprinkle the sidewalk with water'

Iwata contends that the question of which verbs (both basic and derived types) allow this kind of alternation under what circumstances cannot be answered simply in terms of a single rule or in terms of a strictly lexical process, as previously proposed by formally oriented linguists. Instead of the previous verb-based accounts, he argues for a construction-based analysis in the spirit of Construction Grammar advocated by Charles Fillmore and Paul Kay and their associates. In this approach,

grammatical devices such as lexical rules converting verbs into another type or syntactic rules deriving one construction from another are not posited. Alternating sentences are each recognized as instantiations of abstract grammatical constructions that represent the speaker's alternative construals of events. These grammatical constructions, characterized by the features abstracted from concrete instances, determine the productivity of alternation patterns in terms of the compatibility between the verb meaning and the schematic constructions, sanctioning new instances that conform to their specifications and disallowing those that deviate from them.<sup>4</sup>

## Shibatani

Shibatani's voluminous contribution is an innovative, comprehensive treatment of grammatical nominalization phenomena widely observed but quite understudied, not only in Japanese studies but also in works dealing with other languages. This ambitious chapter first defines nominalization as a metonymically motivated process that enriches the expressive power of language by allowing existing lexical and grammatical resources to denote novel concepts on the basis of the intimate relations perceived between them and the concepts denoted by the base forms. While recognizing distinctions between lexical and grammatical nominalization, between argument and event nominalization, as well as between verbal-based and nominal-based nominalization, Shibatani contends that they represent a unified phenomenon characterized by common meaning and syntactic functions and by shared morphological properties.

The two most striking fallouts of Shibatani's new analysis are; (i) a new treatment of so-called relative clauses, which simply turn out to be uses of nominalizations and which are not structures independent from them, and (ii) a novel analysis of the so-called genitive case, which turns out to be nominal-based nominalization. Under this analysis, so-called headless relative clauses represent an NP-use of argument nominalizations allowing these to head an NP, where they play referential function. So-called internally headed RCs are no more than an NP-use of event nominalizations. Both argument and event nominalizations allow modification-use, where they either restrict or identify the denotation of the head noun. These uses are what are known as relative clauses and content clauses, under the assumption that they are clauses. The new analysis reveals that these are not really clauses, whose predication function, Shibatani claims, is different from the entity-denoting function of nominals, including lexical and grammatical nominalizations.

The probed analysis identifies gaps in so-called relative clauses as a property of argument nominalizations that point to the participant roles of the intended

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4 Shibatani (1996) advocates a similar approach to applicative and benefactive constructions.

denotations. Subject-nominalizations would have a gap in subject position ( $[[\emptyset \text{ hon o katta (no)}] \text{ wa} \dots$  ‘(one) who [ $\emptyset$  bought a book]’) that points to the agentive meaning of the denotation of such argument nominalizations. So-called subject relativization is simply a modification-use of a subject argument nominalization with a gap in subject position. There is no movement or deletion involved in relative clause formation under this analysis, which simply juxtaposes two nominal entities, an argument nominalization and a head noun. Accordingly, the notion of grammatical relations is not relevant to relativization per se, challenging the widely accepted Keenan-Comrie typology of relative clauses based directly on the hierarchy of grammatical relations known as the Accessibility Hierarchy.

Shibatani advances a similar analysis for genitive/possessive constructions ( $[[\text{Hanako no}] \text{ hon}]$  ‘Hanako’s book’), which are reanalyzed as an instance of modification-use of the nominal-based nominalization,  $[\text{Hanako-no}]$  ‘Hanako’s’, which also has an NP-use, as shown by such use as  $[\text{Hanako-no}] \text{ wa dore}$  ‘Hanako’s is which?’. Besides obviating the need for the category of genitive case, Shibatani’s new analysis solves a long-standing mystery about the morphological connection between so-called genitive case and the marking of so-called relative clauses seen across the globe.

Similar to the Takami-Kuno contribution, Shibatani’s approach takes speech context seriously, as it plays an important role in determining the intended denotation of a grammatical nominalization consistent with the context. If context is taken seriously, Shibatani contends, there is no need to invoke the popular deletion/ellipsis analysis for so-called headless RCs and headless genitives.

## Narrog

One of the criticisms that scholars working within functional frameworks have about structural linguistics has been the strict separation between diachronic and synchronic aspects of language advocated by Saussure. While there was a time when generative phonologists thought that underlying morphophonemic representations and phonological rules would often capture historical changes (cf. Chomsky and Halle’s 1968 treatment of vowel alternations in Modern English reflecting the Great English vowel shift), the Saussurean position has been rigorously maintained by generative grammarians. This position has been challenged by several leading functional grammarians, who view synchronic grammatical structure to be the result of historical processes requiring explanation in diachronic terms. A similar, diachronically-oriented typology was also advocated by the late Joseph Greenberg (cf. Greenberg 1995). The concept of grammaticalization developed as a way of grasping synchronically observable traces of diachronic changes and of understanding why synchronic grammatical patterns are the way as they are.

Among those aspects of grammaticalization, such as phonological reduction and semantic bleaching, Narrog highlights more neglected formal topics of morpho-syntactic grammaticalization in Japanese. After presenting an overview of grammaticalization in Japanese with particular reference to morphological and syntactic

properties, he then takes up several case studies in this area, offering critical appraisals on the works dealing with the grammaticalization of motion verbs, periphrastic deontic constructions, and the future marker. The first two case studies use the concept of grammaticalization in explaining synchronic patterns, whereas the last offers a glimpse of the diachronic perspective.

## Formal syntax


The thirteen chapters on formal Japanese syntax represent some of the most important recent achievements in the field of Japanese linguistics. As is always the case, significant accomplishments like these are made possible by standing on the shoulders of those who laid the foundations for today's interesting and insightful pursuits. In the study of Japanese syntax, we are all indebted first and foremost to S.-Y. Kuroda's (1965) monumental work that demonstrated how interesting Japanese syntax is when looked at from the perspective of generative grammar. His work laid the foundation both for topics to explore, such as sentence structure, case marking, and valency-changing constructions as well as the procedure for carrying out research through rigorous empirical analysis. It is difficult to imagine what our field would be like today if Kuroda had not written his dissertation. His work directly or indirectly contributed to works in the 1970s by such eminent linguists as S.-I. Harada, Kazuko Inoue, Susumu Kuno, and Masayoshi Shibatani, and, in the 1980s, to Saito's important 1985 dissertation. These works substantially extended Kuroda's original vision of Japanese syntax and pioneered new areas of study. Nevertheless, these studies and others that followed, including the thirteen chapters below, adhered to the idea in Kuroda's original work of identifying interesting and important problems to try to solve using the most rigorous methodology available. Other languages that have had enormous success follow the same pattern: English, studies by Noam Chomsky and others; Chinese, by the eminent linguist, James Huang; and Romance languages, which find foundational works by such distinguished linguists as Guglielmo Cinque, Richard Kayne, and Luigi Rizzi.

The overall goal of the studies contained in each of the thirteen chapters on formal syntax reflects the general goal of the original work by Kuroda and others mentioned above including those on other languages. Each work has the dual, and related, mission of carrying out deep, extensive, and critical empirical analysis of the selected topic and, at the same time, demonstrating the relevance of the analysis to general linguistic theory. Reading through the chapters, one can sense the passion with which the linguists attempt to unravel the empirical puzzles they have taken on. This can only be appreciated by carefully working through the details of the study. In the remainder of this introduction, we will comment on these works and some ways in which they relate to general theory.

## Movement

A topic that runs through several works is the issue of movement. The topic of movement has been pervasive in generative grammar from its inception, so much so that if one understands how a theory at a particular point in time deals with movement, one has a fairly good grasp of the overall theory. GB theory characterized movement as completely optional (Chomsky 1981, Lasnik and Saito 1984); it was up to universal principles such as Subjacency to evaluate whether a particular movement is grammatical or not. These universal principles constituted the core substantive content of universal grammar, and the principles and the parameters built into them became an intense subject of study. Once the theory transitioned to the Minimalist Program (Chomsky 1993, 1995, etc.), movement took on an opposite characterization, as a last resort operation that some element in the grammar triggers. Grammatical features became the focus of study as triggering at least some movement, and a great deal of the work in MP turned to looking closely at various agreement systems we find in languages. Below, we will comment briefly on the chapters by Yoichi Miyamoto, Yoshi Kitagawa, Noriko Yoshimura, and Tomoko Ishizuka from the perspective of movement.

Miyamoto takes up the relative clause construction with the question of whether there is movement involved in the RC, and if so, what kind of movement we find in it. In the general literature on relative clauses, linguists have postulated two kinds of movement, matching and head-raising. Matching is the familiar type in which the head of the RC is related to the gap within the RC by operator movement. Head-raising refers to a way of constructing the RC by moving the head directly from its original position within the RC. These are illustrated below (e.g. Kayne 1994).

- (1) a.  $[_{DP} \text{ the book } [_{CP} \text{ OP}_i \text{ that } [_{TP} \text{ Mary read } t_i]]]$   
 b.  $[_{CP} \text{ the book that } [_{TP} \text{ Mary read } \_\_\_\_]]$   


Miyamoto concludes that the Japanese RC does have movement, and it is only of the matching kind, which involves operator movement. Interestingly, he argues that this movement can only be short distance; any movement-like construal in the subordinate domain involves *pro*. This is something apparently unique to Japanese, and it leaves a question as to why the RC limits itself to this “shallow” movement when one sees long-distance movement in other constructions such as the wh-question and clefts.

- (2)  $[_{DP} [_{CP} \text{ OP}_i [_{TP} \text{ Taroo ga } [_{CP} t_i [_{TP} \text{ Hanako ga } \textit{pro}_i \textit{yonda}] \textit{to}] \textit{omotta}] \textit{hon}_i]]$   
 Taro NOM Hanako NOM read C thought book  
 ‘the book that Taro thought that Hanako read’

As shown, this long-distance construal has two parts: there is the *pro* in the subordinate object position, and an operator in the subordinate CP coindexed with this *pro*. This operator moves to the matrix Spec,CP and matches with the head noun, which makes it possible to construe the head noun as being associated with the gap in the subordinate clause of the RC. This accounts for the apparent absence of island violations (Kuno 1973). It also accounts for the inability of an adjunct (“why”) to have a long-distance contrual (Murasugi 1991); this is so because an adjunct is not expected to have a *pro* counterpart. Miyamoto’s work does leave the question of whether the Japanese RC only allows matching. Miyamoto demonstrates that we find reconstruction and also relativization involving idiom chunks in the Japanese RC, both of which are considered as signs of head-raising in the literature. As a simple demonstration, (3a) is a relative clause that reconstructs the head that contains the anaphor *himself*, making it possible to place the anaphor in the c-command domain of its antecedent *John*. The fact that this relative clause is grammatical shows that the reconstruction takes place.

- (3) a. I saw [[the picture of himself] that John liked \_\_\_\_]  
 b. \*I saw [[the picture of himself] yesterday [that John liked \_\_\_\_]]

In (3b), the relative clause has been extraposed, an operation that is possible for English relative clauses. What we find, however, is that extraposing the relative clause blocks reconstruction (e.g. Hulsey and Sauerland 2006). We see the same for idiom chunks. In other words, extraposition excludes the possibility of head-raising. The fact that we find both reconstruction for anaphor interpretation and idiom chunk relativization raises the possibility of head-raising in Japanese. To pursue this, we must find a way, like extraposition in English, to block it.

Kitagawa’s chapter takes up a study of the syntax-semantics-prosody interface, an area that he, along with a handful of others like Shin’ichi Ishihara, pioneered using Japanese. As one important example of his work, he addresses the controversy surrounding wh-islands: is there an island effect? Some speakers detect it while others do not. Kitagawa argues that the two readings in the following example, one in which the wh-phrase “which sumo wrestler” is interpreted inside the wh-island, and the one in which the wh-phrase has matrix scope, have two distinct prosodic patterns.

- (4) *Ana’ta wa [do’no ri’kisi ga ka’tta ka] kininarima’su ka?*  
 you TOP which sumo.wrestler NOM won C curious.about C
- a. Subordinate *wh*-scope reading:  
 ‘Are you curious which sumo wrestler won?’
- b. Matrix *wh*-scope reading:  
 ‘[Which sumo wrestler]<sub>1</sub> is it that you are curious whether he<sub>1</sub> won?’

Regardless of the interpretation, there is a pitch prominence at the wh-phrase, signaling the start of a wh-prosodic domain. The pitch falls immediately after the wh-phrase, a stage called “post-focus reduction.” This stage of reduction may continue to the embedded C, then stop, resulting in a rise in pitch right after the embedded C. This signals that the domain of the wh-phrase is the embedded clause, leading to an indirect question. But if the reduction persists to the end of the sentence, it gives rise to the matrix scope of the wh-phrase and a matrix wh-question. This kind of syntax-semantics-prosody interface in Japanese led to a number of important innovations in linguistic theory. For example, Norvin Richards (e.g. 2016) has developed what he calls the Contiguity Theory, which predicts when movement must occur in a language based on the idea that the wh-phrase and the interrogative C must be in the same prosodic domain. In languages such as Japanese, this requirement can be met by manipulating the prosodic domain, as we saw. But in other languages such as English, for an independent reason prosodic domains cannot be so manipulated, hence the wh-phrase is forced to undergo movement to the Spec,CP to be in the same domain as the interrogative C.

Scrambling is a major topic in Japanese linguistics and it is the topic that Yoshimura takes up in her chapter. An important issue surrounding scrambling is the A versus A' distinction for movement. These two kinds of movements have distinct properties.

(5)	<b>A-movement</b>	<b>A'-movement</b>
a.	Local	Long-distance
b.	Restricted to nominals	Not restricted to nominals
c.	No Weak Crossover	Weak Crossover
d.	New antecedents for Binding Theory	No new antecedents for BT
e.	No reconstruction for Principle C	Reconstruction for Principle C
f.	No parasitic gap licensing	Parasitic gap licensing

Traditionally, A-movements are movements to a (potential) A(rgument) position, most typically Spec,TP. This is the position to which the external theta role is assigned in the Standard Theory. But with the advent of the VP-internal subject hypothesis, the Spec,TP no longer is a position to which a theta role is ever assigned. Yet, movement to this position (e.g. passive) has all the properties of A-movement, and not A'-movement. Could the A-position be a Case position? That is a distinct possibility, until one considers scrambling. As originally noted by Anoop Mahajan (1990) for Hindi, local scrambling of the object across the subject counts as A-movement, with all the requisite properties one sees for this kind of movement in (5). It is difficult to justify this local scrambling as being Case-driven. Scrambling suggests that A and A' movements should somehow be distinguished by the positions to which they move. Spec,TP is an A-position possibly because it is contained



in the spell-out domain of the phase (complement of the phase head, Chomsky 2001), while Spec,CP would count as an A'-position because it is part of the phase head and outside the complement that is spelled out first. However, Van Urk (2016), in his study of Dinka, a Nilotic dialect spoken in South Sudan, shows that the A/A' distinction cannot be based on the position of the landing site. In Dinka, phi-feature agreement occurs at C, and anything that moves to Spec,CP to enter into agreement with the phi feature at C undergoes A-movement with the properties noted in (5), even if it is to the traditional A' position of Spec,CP. This suggests that A-positions are defined by phi-feature agreement, at T or C, not by positions such as Spec,TP or Spec,CP. Very clearly, scrambling, which already has enjoyed a great deal of attention in Japanese linguistics, requires further study to see how we are to account for the A/A' distinction. In this regard, Yoshimura's chapter does an excellent job of laying out the major research on scrambling, thus providing a sound foundation for future research.

Ishizuka takes up the passive construction, which has enjoyed a great deal of attention throughout the development of the field from the time of Kuroda (1965). Typically, two separate constructions are postulated for the passive, direct and indirect passives. The direct passive involves promotion of the object (or the indirect object) to the surface subject position, leaving a gap in the object position. In contrast, the indirect passive does not have any apparent gap, and there is no corresponding active counterpart.

- (6) a. *Ken ga Naomi ni home-rare-ta.*  
 Ken NOM Naomi by praise-PASS-PST  
 'Ken was praised by Naomi.'
- b. *Ken ga Naomi ni nige-rare-ta.*  
 Ken NOM Naomi DAT escape-PASS-PST  
 Lit. 'Ken was escaped from by Naomi.' [cf. Naomi escaped from Ken.]

Given this difference, the traditional analysis postulates movement in the direct passive while no movement is thought to be present in the indirect passive. One piece of evidence used by Ishizuka comes from the ability to strand a numeral quantifier (Miyagawa 1989).

- (7) a. *Kuruma ga doroboo-ni ni-dai nusum-are-ta.*  
 car-NOM thief-by 2-CL steal-PASS-PST  
 'Two cars were stolen by a thief.'
- b. \**Keimusyo ga syuuzin ni futa-tu nige-rare-ta.*  
 prison NOM prisoner DAT 2-CL escape-PASS-PST  
 int 'Two prisons were escaped from by (their) prisoners.'

In the direct passive in (7a), we see that the numeral quantifier *ni-dai* can be stranded in the object position, showing that the surface subject moved from the object position to the subject position. In contrast, a numeral quantifier cannot be stranded in the indirect passive example in (7b). Ishizuka argues that this distinction can be explained even if movement is assumed to occur in the derivation of the indirect passive. She goes on to present an interesting analysis in which she unifies both passive constructions and presents arguments that movement of one sort occurs across all instances of the passive construction.

## The underlying position of the subject

The issue of the underlying position of the surface subject plays a crucial role in several chapters. These are chapters by Nobuaki Nishioka, Masatoshi Koizumi, and Shigeru Miyagawa. There are two interrelated issues. First is the idea of the VP-internal subject position, and the second is the distinction between unergative and unaccusative verbs. The VP-internal subject hypothesis is one of the major distinguishing characteristics of MP. By postulating the external argument as originating within the verbal projection, we are able to unify all theta marking as taking place in the verbal projection. Assuming the VPISH, the question of why the subject raises to Spec,TP in languages such as English has become a central topic of study in MP, with various theories that attempt to identify the driving force for this movement: agreement, Case, and Extended Projection Principle. Kuroda (1988) is one of the linguists credited with proposing the VPISH along with Sportiche (1988) and a few others. See McCloskey (1997) for arguments for the VPISH.

Nishioka in his chapter provides a simple and convincing argument from Kumamoto Japanese, spoken on the southern island of Kyushu, for the VPISH. KJ has two distinct nominative markers, *-ga* and *-no*. *-Ga* marks the nominative outside of the verbal phrase, and *-no* marks the nominative inside the verbal phrase (Kato 2007). The three examples below are drawn from Nishioka's chapter. The point to note is the kind of nominative marking on the subject "all" and whether this universal quantifier subject is interpreted outside or inside the scope of negation.

- (8) a. *Zen'in ga/\*no siken ba uke-ndat-ta.* (KJ)  
 all NOM test ACC take-NEG-PST  
 'All did not take the test.' \*NEG > all, all > NEG
- b. *Siken ba zen'in no uke-ndat-ta.* (KJ)  
 test ACC all NOM take-NEG-PST  
 'The test, all did not take.' NEG > all, \*all > NEG
- c. *Siken ba zen'in ga uke-ndat-ta.* (KJ)  
 test ACC all NOM take-NEG-PST  
 'The test, all did not take.' \*NEG > all, all > NEG

In (8a), which is in the default SOV order, the subject “all” is marked with the *-ga* nominative marker. This subject is necessarily interpreted outside the scope of negation, which occurs between vP and TP (Pollock 1989). The *-ga* marked subject here is assumed to occur in Spec,TP, above the negation. This is why it is interpreted outside the scope of negation. In (8b), which is in the scrambled OSV order, the “all” subject is marked by the *-no* nominative marker. Since a *-no*-marked subject must be within the scope of the verbal projection and is interpreted as within the scope of negation, it is presumably in its initial position of Spec,vP. As shown in (6c), in the same scrambled order OSV, if the subject instead has the *-ga* nominative marker, it necessarily scopes outside of negation. The *-ga* marked subject presumably has moved to Spec,TP, and the scrambled object has adjoined above it. Two points to notice are, first and foremost, the *-no* nominative subject occurs in Spec,vP (or some such verbal projection), as stipulated on the basis of Kato (2007). Second, as we see in (8b), the *-no* subject in a transitive construction may occur most readily if the object is scrambled to its left. Nishioka assumes that the object has moved to Spec,TP, thereby fulfilling the need of T to have a specifier, the so-called EPP (Extended Projection Principle) requirement (Chomsky 1981). This allows the subject to stay in the Spec, vP position. Since it is a subject that occurs in the verbal projection, it must be marked by the *-no* nominative marker. As we see in (8c), there is an option of first moving the subject to Spec,TP to fulfill the need of the T to have a specifier. In this case, the subject must be marked by *-ga*, and it necessarily takes scope outside of negation. This analysis of KJ parallels the analysis given in Miyagawa (2001). There he used Standard Japanese, which only has *-ga* for all instances of the nominative. In part because it is difficult to distinguish the position of the subject, given that all subjects are marked by *-ga*, it is not always clear where the subject is located, which leads to judgment uncertainties that understandably the analysis. In this regard, the KJ data provided by Nishioka gives a more convincing empirical demonstration of the position of the subject and how scrambling affects its occurrence. In the chapter by Koizumi, he draws on processing research he carried out with collaborators that provides experimental evidence for distinguishing the subject at vP and at TP.

The Unaccusative Hypothesis (Perlmutter 1978, Burzio 1981, 1986) has played a major role in the analysis of argument structure and the underlying position of the subject. In its simplest form, the UH distinguishes between unergative and unaccusative predicates, which are typically both intransitive. (9a) is an example of an unergative construction, and (9b) that of an unaccusative construction.

- (9) a. *John laughed.*  
      b. *The door opened.*

The UH postulates the subject of the unergative *laugh* to have originated in the external argument position, Spec,vP, while the subject of the unaccusative *open*

originated in the complement position of the verb (the order given below is for head-initial languages).

- (10) a. Unergative:  
           [<sub>VP</sub> DP [<sub>VP</sub> V]]  
       b. Unaccusative  
           [<sub>VP</sub> [<sub>VP</sub> V DP]]

Semantically the subject of the unaccusative *open*, *the door*, corresponds to the object in the lexical causative counterpart.

- (11) *Mary opened the door.*

Thus, the unaccusative is the non-lexical causative counterpart of this example, lacking in the external argument and the causative meaning. A number of linguists have worked on the unergative/unaccusative distinction in Japanese. One piece of evidence comes from floated numeral quantifiers, which typically must be construed locally with its associate noun phrase. As noted in the chapter by Miyagawa, an FNQ construed with the subject cannot be separated by a VP adverb if the verb is unergative, but such a separation is possible for unaccusative verbs.

- (12) a. *Kodomo-ga (san-nin) umaku (\*san-nin) hasitta.*  
       kids-NOM 3-CL successfully 3-CL ran  
       ‘Three kids ran well.’  
       b. *Doa-ga (huta-tu) umaku (?huta-tu) aita.*  
       door-NOM 2-CL successfully 2-CL opened  
       ‘Two doors opened successfully.’

In (12a), the VP adverb forces the second occurrence of the FNQ to be inside the VP; given that the verb is unergative, thus there is no copy (trace) of the surface subject to fulfill the locality requirement of the FNQ. In (12b) the surface subject begins in the complement position of the unaccusative verb *aku* ‘open’, leaving a copy that meets the locality requirement for the stranded FNQ inside the VP.

## Case marking

Case marking has been a major focus of study since Kuroda took it up in his 1965 dissertation. There are generally two kinds of case markers recognized, grammatical (or structural) case marking and semantic (or inherent) case marking. Japanese has both. In the section of her chapter on the ditransitive construction, Tsujimura, based

on her own work and that of other linguists, outlines how various semantic roles in argument structure are projected in syntax and the kinds of case markers that these semantic roles are accompanied by. In Kishimoto's chapter, he looks primarily at grammatical case marking, addressing the issue of how the case marking gets licensed, including the heads that are responsible for assigning a particular case marking. In Ochi's chapter, he pursues the question of which head licenses the genitive case marker on the subject in the *ga/no* Conversion construction: C, T, v, or some combination?

If we look back to Kuroda's original proposal for case marking, it was a fundamentally different system than the one typically assumed in Japanese linguistics today. Calling it "linear case marking", the system called for the first unmarked nominal to be marked by the nominative *-ga* and if there is a second unmarked nominal, marking it with the accusative *-o*. In this way, the accusative case is dependent on the nominative case. There are no heads involved that assign a case marker, but rather, the system scans the relevant domain for unmarked nominals, marking the first (the highest) nominal with *-ga* and if there is a second (lower) nominal, marking it with *-o*. A system that is consonant in spirit to Kuroda's system was developed by Marantz (1991), called dependent case.

(13) Dependent case (Marantz 1991)

- a. NOM is the morphology found on the highest non-case-marked nominal in a clause in which V has entered a relationship with T.
- b. ACC case is the morphology found on a nominal within a domain in which a higher nominal has received NOM.

Like Kuroda's system, dependent case does not utilize heads such as T and v for case assignment. Also like Kuroda's system, it looks at a domain within which the highest (=first) unmarked nominal receives the nominative case, and if within the same domain there is a second nominal, it receives the accusative case. To motivate the dependent case approach, Marantz turned to Icelandic. While this language normally has the nominative-accusative case pattern, the following is an exception.

- (14) *Eg tel [henni hafa alltaf þótt [Olafur leiðinlegur]]*  
 I believe her-DAT to-have always thought Olaf-NOM boring-NOM  
 'I believe her to have always thought Olaf boring.'

Under normal circumstances, *Olafur* would receive the accusative case, but in this example, the higher unmarked nominal *henna* 'her' has the dative case, thus *Olafur* becomes the highest (first) unmarked nominal, and it receives the nominative case. The chapter by Kishimoto provides extensive data on case marking, some that easily fall under the dependent case approach, but others, like the double nominative

construction, poses a challenge to the dependent case approach; as Kishimoto notes, it is also a challenge to an approach of case marking by heads. On the other hand, the dependent case approach readily handles the following array of case marking.

- (15) a. *Taroo-ga huransugo-o hanas-e-ru.*  
           Taro-NOM French-ACC speak-can-PRS  
           ‘Taro can speak French.’  
       b. *Taroo-ni huransugo-ga/\*-o hanas-e-ru.*  
           Taro-DAT French-NOM/\*-ACC speak-can-PRS

(15a) is the typical NOM-ACC array. Because the predicate is stative, it also allows the subject to be marked with the DAT, as shown in (15b). As we see in this example, the object can only be marked with the nominative case marking (the nominative is also possible for the object in (15a)). This is similar to the Icelandic example. On the dependent case scenario, in (15b) the highest unmarked nominal is the object, so it gets *-ga*. On the approach to case assignment by heads, it isn’t clear why the “small” *v* that assigns the accusative case in (15a) can’t also assign the same case in (15b). There are many issues to contend with and a research project that compares the two approaches using the Japanese data would be of use not only to Japanese linguistics but also to the general theory of case marking.

## Clausal structure

Clausal structure has played a key role in generative studies. The X-bar theory of clausal structure (Jackendoff 1977) showed that all kinds of phrases and clauses (AP, TP, NP, etc.) have the same phrase structural format. Within each clause, the specifier-head relation has a special status that allows important grammatical and semantic factors to be operative, such as agreement, selection, and deletion. Three chapters contain studies in which clausal structure plays an important role. Saito’s chapter elucidates the conditions under which various kinds of ellipsis are possible while Watanabe’s chapter deals with a variety of attributive modification patterns that are sensitive to the structure of the clause. Hasegawa’s chapter deals with the relationship between various types of modality and clausal structure.

The specifier-head relationship plays a crucial role in Saito’s chapter on ellipsis, a topic he has pioneered for Japanese along with Keiko Murasugi. The issue of specifier-head is particularly challenging in Japanese because Japanese does not evidence grammatical agreement, which typically occurs on a head with the agreement linked to the specifier. The condition relevant to ellipsis as regards specifier-head is the idea that an XP can be elided only if the specifier of the head that selects the XP is filled (Lobeck 1990, Saito and Murasugi 1990, Richards 2003).

- (16) a. *I read Bill's book, but I haven't read* [<sub>DP</sub> *Mary's* [<sub>NP</sub> ~~*book*~~]]  
 b. *Mary bought something, but I don't know* [<sub>CP</sub> *what* [<sub>TP</sub> ~~*she bought*~~]]

In (16a) the specifier of the DP is filled by *Mary*, which allows NP ellipsis. Likewise, in (16b), the specifier of the CP is filled by *what*, making it possible to elide the TP, leading to a sluicing construction. In contrast to these, the following instances of ellipsis are ungrammatical because the relevant specifier is not filled.

- (17) a. *\*I want to read the book because I hear good things about* [<sub>DP</sub> [<sub>the</sub> [<sub>NP</sub> ~~*book*~~]]].  
 b. *\*\*John denied that he cheated, but I believe* [<sub>CP</sub> [<sub>that</sub> [<sub>TP</sub> ~~*he cheated*~~]]].

An early work showing the relevance of the specifier condition for ellipsis in Japanese is Saito and Murasugi (1990), on the topic of N'-ellipsis (which we would call NP ellipsis today).

- (18) a. *Taroo no hon wa [Hanako no \_\_] yori omosiroi.*  
           Taro GEN book TOP Hanako no than interesting  
 b. *John's book is more interesting than [Mary's \_\_].*

Their analysis assumes that *Hanako no* is in the specifier of what today we would call DP, thus licensing the ellipsis. They provide the following as evidence that the specifier must be filled for ellipsis to take place.

- (19) *\*Saikin wa kumori-no hi-ga [ame no \_\_] yorimo ooi.*  
       nowadays TOP cloud-GEN day-NOM rain GEN than plentiful  
       'Nowadays, there are more cloudy days than rainy days.'

According to Saito and Murasugi, *ame no* 'rain GEN' is an adjunct, and adjuncts are not available to move to the specifier, hence ellipsis cannot take place. In Saito's chapter, we also see cases of what some have termed sluicing (e.g. Inoue 1978, Takahashi 1994), which requires a wh-phrase in Spec,CP.

- (20) *Kare wa dokoka e itta ga, boku-wa* [<sub>CP</sub> *doko e* [<sub>TP</sub> ~~*ka*~~]] *siranai.*  
       he TOP somewhere to went though I-TOP where to Q know.not  
       'He went somewhere, but I don't know where.'

This analysis indicates something unusual, that Japanese has overt wh-movement despite the fact that Japanese is a stereotypical wh-in-situ language, something that Kuroda (1988) suggested as a possibility based on independent grounds. Saito carefully goes through the pros and cons of these analyses for NP ellipsis and sluicing as well as other types of ellipsis.

Watanabe takes up the topic of attributive modification, primarily, though not limited to, adjectival modification of a nominal. This is a topic for which he has done foundational work for Japanese, and his work has had impact cross-linguistically. The literature on attributive adjectives has identified two types, direct and indirect. The adjectives that enter into direct modification occur closest to the nominal and they are rigidly ordered.

- (21)  $[_{F1P} AP F_1 [_{F2P} AP F_2 NP]]$

$F_1$  and  $F_2$  are functional heads that select a particular type of adjective, and the ordering cannot be inverted (e.g. Sproat and Shih 1991).

- (22) a. small square table  
b. \*square small table

We can see that shape (“square”) must be closer to the nominal head than size (“small”). In contrast, indirect modification does not impose a rigid ordering of the attributive adjectives; in Chinese adjectives with *-de* may be freely ordered, suggesting that they enter into indirect attribution.

- (23) a. *xiao-de lü-de huaping*  
small-DE green-DE vase  
b. *lü-de xiao-de huaping*  
green-DE small-DE vase  
‘small green vase’ (Sproat and Shih 1991)

Indirect modifiers occur structurally higher than the direct ones, and the head in the structure that has an indirect modifier does not select the modifier, which allows free ordering among the indirect modifiers (Cinque 2010).

- (24)  $[_{HP} RC H [_{HP} RC H [_{FP} AP F [_{FP} AP F NP]]]]$   
indirect modification    direct modification

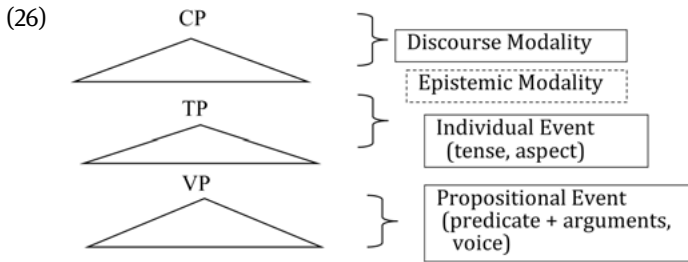
While the  $F$  heads within the direct modification structure select designated modifiers, as we saw earlier, the  $H$  heads within the indirect modification structure does not. In this regard, Sproat and Shih (1991) make an interesting observation about Japanese.

- (25) a. *tiisana sikakui ie*  
small square house  
b. *sikakui tiisana ie*  
square small house  
‘small square house’



The two adjectives, *tiisana* ‘small’ and *sikakui* ‘square’ are interchangeable in order. This suggests that Japanese adjectives are indirect in nature, occurring exclusively in the indirect modification region. This would be a puzzling gap in the paradigm for Japanese. In his chapter, Watanabe shows that this gap is in fact not absolute; there are adjectives even in Japanese that occur in the direct modification domain, adjectives that have the so-called non-intersective reading, which Cinque and others have proposed to occur in the direct modification domain (see also Larson and Takahashi 2007).

Drawing on a rich set of literature from both Japanese traditional grammar and generative studies, Hasegawa elucidates the relationship between various kinds of modality and their position within the clausal structure. She shows that the sentential structure proposed in the Japanese traditional grammarians’ studies (e.g. Masuoka 2007) and also by linguists such as Inoue (2007) translate directly into the kind of clausal structure assumed in generative studies.



The idea is that modality occurs at C as shown. Drawing on her own work and that of others, she shows that the modality at C sometimes selects the subject of the sentence, and this leads to the kind of restriction on the subject that has been widely observed in the literature. Hasegawa calls this a form of person restriction, and suggests that a participant agreement system of speaker/addressee, instead of 1st, 2nd, and 3rd person, is operative in the modality system.

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## Appendix: List of additional abbreviations used in this volume

Morpheme classes:

vV adverbial verb; -v: suffix verb, -a: suffix adjective, =a: particle adjective, vN: adverbial noun; =p: particle; -f: inflection

ABS	absolutive
ANP	adnominal present
AFF	affirmative
CAU	causative
CAUS	causative (also used for case marking cause)
CON	conditional
CNC	concessive
COOR	coordinate
CONJCTPART	conjunctive particle
CPL	complementizer
DIR	directional
DUTY	duty
ESS	essive
FIN	finite
FNP	finite non-past

INTF	intentional form
IM	illocutionary modification
ILIM	limitative
MAN	manner
NMZ	nominalization
NMLZR	nominalizer
NONPOL	non-polite
NPS	non-past tense
NPST	nonpast (NONPST)
PATH	path
PLN	plain
PN	proper noun
POLSUF	polite suffix
QUO	quotative
REAS	reason
REQ	request
ROF	root form
SP	sentential particle
TEMLOC	temporal locative
TMP	temporal (case marking time of occurrence)
Periodization:	
OJ	Old Japanese (6th–8th c)
LOJ	Late Old Japanese (9th–11th c)
MidJ	Middle Japanese (12th–18th c)
EMJ	Early Modern Japanese (18th–19th c)
ModJ	Modern Japanese (late 19th c ~)
Others:	
MYS	Man'yōshū,
subj.	subject
pos.	position

Yoshio Nitta

# **1 Basic sentence structure and grammatical categories**

## **1 Introduction**

Not only in Japanese but probably in most languages, from the point of view of the elements comprising the core of sentence formation, sentences can be divided into two types: free-standing word sentences and predicate sentences. Predicate sentences can be further subdivided into several subtypes, depending on one's point of view. In terms of the parts of speech comprising the predicate, sentences can be divided into verbal sentences, adjectival sentences, and nominal sentences; in terms of the events described by the sentence, they can be divided into action sentences, stative sentences, and attributive sentences; in terms of the speech-communicative function played by the sentence, they can be divided into declarative, interrogative, imperative, and purposive.

The type of the sentence affects its internal structure, and affects the types of grammatical categories that can appear in a sentence and how the grammatical meaning associated with the grammatical categories is realized. The type of text that forms the context in which a sentence appears also affects the type of sentence that can appear and the grammatical categories that can appear in the sentence. One such text type difference is the difference between a conversation in which there exists a hearer and a monologue in which there does not. This difference in type affects the type of sentence and the grammatical categories that may appear.

## **2 Free-standing word sentences**

A predicate sentence is composed of the predicate that forms its core and some number of elements subordinate to it. Predicate sentences have a varied internal structure and an assortment of grammatical categories may appear. This chapter outlines the basic internal structures of predicate sentences and the grammatical categories that may appear in them.

However, before getting into the main topic, we will extremely briefly touch upon free-standing word sentences. A free-standing word sentence is one that is composed with a free-standing word as its core. Free-standing words include such things as exclamations and nouns, are disengaged from any link with a predicate, and serve the role of signaling an expression that follows. A free-standing word, used alone, cut off from what precedes or follows, can show a limited number of

meanings, such as exclamation or surprise, hailing, or response, and forms a free-standing word sentence.

Unlike a predicate sentence, a free-standing word sentence cannot be divorced from the here, now, or first person. Nitta (1995) proposed the tentative typology described here for free-standing word sentences. From the type of word forming the free-standing word sentence and its communication characteristics, free-standing word sentences can be cross-categorized into four types. Word type subcategorizes into single, unanalyzable free-standing word sentences composed of exclamations and analyzable free-standing word sentences composed of separable words, usually nouns. Communication characteristics subcategorizes into presentational free-standing word sentences that do not presuppose a listener and communicative free-standing word sentences that do presuppose a listener.

- |                             |   |
|-----------------------------|---|
| (1) <i>Maa!</i><br>'Well!'  | (2) <i>Ooi!</i><br>'Hey!'                               |
| (3) <i>Kazi!</i><br>'Fire!' | (4) <i>Yamada-san!</i><br>Yamada-POLSUF<br>'Ms Yamada!' |

(1) and (2) are unanalyzable free-standing word sentences and (3) and (4) are analyzable free-word sentences. (1) and (3) are presentational free-standing word sentences and (2) and (4) are communicative free-standing word sentences. Presentational free-standing word sentences are ones that express surprise or wonder, as in *Are!* 'What!' or *Yuki!* 'Snow!', and communicative free-standing word sentences are ones that show a response or a hail, as in *Hai!* 'response word' or *Hiroshi!* 'Hiroshi (proper name)!'

It probably does not need saying, but, when unanalyzable free-standing word sentences and analyzable free-standing word sentences are used together, they are always in that order, never in the opposite order.

- |   |                           |
|---|---------------------------|
| (5) <i>Ooi, Hiroshi!</i><br>'Hey, Hiroshi!' | (6) <i>*Hiroshi, Ooi!</i> |
|---|---------------------------|

Unanalyzable free-standing word sentences are composed of a single-word exclamation and do not take other elements, but an analyzable free-standing word sentence may take additional elements and may become quite complex in terms of its internal structure.

- |  |
|--|
| (7) <i>Soko ni suwatte iru Yamada-san!</i><br>there PART/LOC sit.GER be.ADN Yamada-POLSUF<br>'You, the Ms Yamada sitting there!' |
|--|

Sentence (7) shows a hail and is an independent sentence containing a noun modifying clause.

### 3 The basic structure of a predicate sentence

In a predicate sentence, the predicate word is the controlling constituent and forms the core of the sentence. The sentence is formed by the predicate taking forms to complete it. The structure of and the governing power and centrality of the predicate part of a predicate sentence differ greatly among verbal, adjectival, and nominal sentences.

#### 3.1 Basic structure of a verbal sentence

Let us start with a very brief overview of the basic structure of verbal sentences. The verb forms the predicate and influences the structure of the sentence. Depending on the lexical type of the verb, the kinds of elements that can co-occur with the predicate verb are different.

##### 3.1.1 The nucleus of the sentence structure

Let us first consider the most nuclear part of the structure of a verbal sentence.

- (8) *Ki ga kare -ta*  
 tree PART/NOM wither.ADVL AUX/PST  
 ‘The tree withered.’
- (9) *Sensei ga kodomo o nagusame -ta.*  
 teacher NOM child PART/ACC console.ADVL PST  
 ‘The teacher consoled the child.’
- (10) *Inu ga ayasii otoko ni kamitui -ta.*  
 dog NOM suspicious.ADN man PART/DAT bite.ADVL PST  
 ‘The dog bit the suspicious looking man.’
- (11) *Hiroshi wa Yoko to kekkonsi -ta*  
 Hiroshi PART/TOP Yoko PART/COM marry.ADVL PST  
 ‘Hiroshi got married to Yoko.’
- (12) *Hiroshi wa Yoko ni hanataba o okut -ta*  
 Hiroshi TOP Yoko DAT bouquet ACC send.ADVL PST  
 ‘Hiroshi sent Yoko a bouquet.’

- (13) *Kaikei ga kaiin kara kaihi o atume -ta*  
 treasurer NOM members PART/ABL dues ACC collect.ADVL PST  
 ‘The treasurer collected the dues from the members.’

In a sentence like (8) with the verb *kareru* ‘wither’ as the predicate, only a subordinate element marked with the nominative *ga* is necessary for the action expressed by the predicate to be realized. Incidentally, let us here broadly divide sentences by their meaning into action, stative, and attributive. The minimum necessary elements for the action expressed by the verb that is the predicate in example sentences (9) through (13) are as described below. In sentence (9) with *nagusameru* ‘console’ as the predicate, a nominative *ga*-marked element and an accusative *o*-marked element are necessary, and in (10) with *kamituku* ‘bite’ as predicate, a *ga*-marked element and a dative *ni*-marked element are necessary. In (11) with *kekonsuru* ‘get married’ as predicate a *ga*-marked element and a comitative *to*-marked element are needed, and in (12) with *okuru* ‘send’ as predicate, a *ga*-marked, an *o*-marked, and a *ni*-marked element are necessary. In (13) with *atumeru* ‘collect’ as predicate, a *ga*-marked, an *o*-marked and an ablative *kara*-marked element are necessary.

As seen above, for a verb functioning as predicate to realize the action its lexical meaning expresses requires that the predicate co-occur with noun phrases or noun-like elements having a lexically determined case relationship. In Nitta (2010), the noun-like elements that are required to co-occur with the predicate verb are termed case elements or co-occurring elements (actants). In other words, when a verb becomes a predicate and forms a sentence, in order to realize the action it expresses, it acts to selectively require a set of actants that participate in the realization of that action. [N-*ga*], [N-*ga*, N-*o*], [N-*ga*, N-*ni*], [N-*ga*, N-*to*], [N-*ga*, N-*o*, N-*ni*], [N-*ga*, N-*o*, N-*kara*], and the like are combinations of cases required by the verbs.

The most basic predicate sentence is a simple sentence composed of one clause. A simple sentence expresses a single event. The framework for the event expressed by the sentence is made up of the predicate word, or more accurately, the stem portion that carries the lexical meaning of the predicate word, and a set of case-marked elements. Accordingly, the most core part of the structure of a predicate sentence is formed of the stem portion of the predicate word and the set of case-marked elements. If we show the most core part of sentence (9) *Sensei ga kodomo o nagusameta* ‘The teacher consoled the child,’ it would be as shown below.

- (14) [[*Sensei ga kodomo o nagusame*] *ta*]

The part appearing enclosed in the inner square brackets in (14) is the most core part of the structure of a verbal predicate sentence.

### 3.1.2 Expanding the core

The framework of an event, and therefore the core part of the structure of a sentence, expands and grows through the addition of grammatical categories the predicate



takes and elements that characterize or restrict how an event is realized. Here, we will examine the addition of elements that characterize how an event is realized. Among the elements that, in a broad sense, characterize how an event is realized, there are those that refer to the nature of aspects internal to the event and those that are related to the temporal realization of the event.

- (15) *Kabin ga konagona.ni ware -ta.*  
 vase NOM into.smithereens break.ADVL PST  
 ‘The vase broke into smithereens.’
- (16) *Sensei ga kodomo o yasaki nagusame ta.*  
 teacher NOM child ACC gently console.ADVL PST  
 ‘The teacher gently consoled the child.’

The *konagona.ni* in (15) shows the state of the subject as a result of the action. The *yasaki* in (16) shows the manner of the action as it progresses. By restricting some aspect internal to the action of the event, these both characterize how an event is realized. (15) can be categorized as an element modifying the result of the action and (16) as an element modifying the manner of the event.

Next, let us examine elements expressing the temporal circumstances of the event.

- (17) *Kare wa nanzikan mo hon o yon -da.*  
 he TOP any.number.of.hours PART book ACC read.ADVL PST  
 ‘He read books for hours on end.’
- (18) *Otoko wa sugu genba ni kaketuke -ta.*  
 man TOP immediately scene LOC hasten.ADVL PST  
 ‘The man immediately hastened to the scene.’

The *nanzikan mo* in (17) show how much time the event occupied as it took place. The *sugu* in (18) shows how long it took for the event to begin. Both of these are related to aspect and refer to temporal characteristics internal to the event and thus characterize how the event is realized. Let us call these time-related modifying elements.

The structure of the sentence causes the participants in the event to appear as case-marked elements; the core portion is formed of the predicate word and the case-marked elements, and, through the addition of elements describing how the event is realized, expands and grows. A sentence expanded in this way can be further expanded by the addition of information about the frequency of the event’s occurrence.

- (19) *Sensei wa yoku kodomo o yasaki nagusame -ta.*  
 teacher TOP often child ACC gently console.ADVL PST  
 'The teacher often gently consoled the child.'

- (20) *Kare wa tokidoki nanzikan mo*  
 he TOP sometimes any.number.of.hours PART  
*hon o yon -da.*  
 book ACC read.ADVL PST  
 'He would sometimes read books for hours on end.'

The *yoku* in (19) and the *tokidoki* in (20) are elements that show information regarding the frequency with which the events occurred. These are called frequency modifying elements. Frequency modifying events do not characterize how an event is realized in terms of aspects internal to the action of the event. They describe from outside the event how many times the event occurred in a fixed period of time. Through the addition of a description of the frequency of an event's occurrence, the content expressed by the sentence becomes even richer. In this way, the core part of the sentence structure is expanded and grows even more.

The case-marked elements are the elements that participate in the realization of the event and make it happen. Their number is restricted and determined by the type of the event. Due to the fact that they are few in number and are limited, the occurrence of the participants in the formation of the event is obligatory, whether or not they actually appear in the sentence as it is expressed. By obligatory is meant that they are indispensable for the semantic realization of the event. If the participants are missing, the event is semantically incomplete. In contrast to these actants, elements describing how an event occurs are numerous and cannot be specified in advance. Their occurrence in the expression of the event is supplementary and optional. Compared to the case-marked elements, which are obligatory elements, the modifying elements are supplementary elements.

An event also occurs against an external background and circumstances. Let us call the elements that express the external background and circumstances of the occurrence of the event situational elements. Representative situational elements are those like the following.

- (21) *Sakuya kare wa boku no ie ni kossori yatteki -ta.*  
 last.night he TOP I GEN house LOC secretly come.ADVL PST  
 'Last night he secretly turned up at my house.'

- (22) *Mokuyooobi Hiroshi wa Takeshi ni at -ta.*  
 Wednesday Hiroshi TOP Takeshi DAT meet.ADVL PST  
 'Wednesday, Hiroshi met Takeshi.'

The *sakuya* in (21) and the *mokuyoobi* in (22) show the time when the event happened. This kind of situational elements that the the external background of the time of an event's occurrence are called temporal situational elements. If the content expressed by the sentence is a dynamic event, the event happens at a certain time and at a certain place. Temporal situational elements are representative situational elements. Temporal situational elements are related to tense. Through the addition of the manner of an event's realization and the external background of the time and place situational elements to the framework of an event, its content becomes even richer and the structure of the sentence expands and develops.

The elements that expand the content expressed by the sentence, that provide the manner of the event's realization and the external background to the event's occurrence, may or may not appear in the sentence as it is actually uttered. The expression of such is optional. In contrast, the possibility of the appearance of the grammatical categories that the predicate takes increases as the sentence structure gradually expands the layers from the core part. In other words, through the expansion of the layers, the grammatical categories that must appear are determined. The appearance of grammatical categories the predicate word takes becomes obligatory or restricted together with the steps in the expansion of the sentence structure.

### 3.1.3 The layeredness of the expansion elements

The framework formed by the action expressed by stem portion of the predicate word and the participants whose participation is necessary for its realization is expanded optionally and supplementarily by the modification elements characterizing how the action takes place or how the event develops. To this, information on the frequency with which the event occurs is optionally added and the content of the event expands more. The expressed content of the event can be further expanded with the addition of the external circumstances of the time of the event's happening.

- (23) *Anokoro kare wa yoku nanzika .mo*  
 those.days he TOP often any.number.of.hours PART  
*nessin.ni hon o yon -da.*  
 earnestly book ACC read.ADVL PST  
 'Those days he often used to earnestly read books for hours on end.'

In (23) the part that can be written as [*kare ga hon o yomu*] is pretty much the framework of the event the sentence expresses and thus forms the core part of the structure of (23). This core part is expanded with the manner modifying element *nessin.ni* showing how the event is realized and further with the time-relation modifying element *nanzikan mo*. In addition, it is expanded with the frequency modifying element

*yoku* and, finally, is expanded with the temporal situation element *anokoro*. The expansion elements in (23) are in the embedding relation [*anokoro* [*yoku* [*nanzikan.mo* [*nessin.ni*]]]]. That is, the manner modifying element is contained within the time-relation modifying element, both are then contained within the frequency modifying element, and then all of them are then embedded within the temporal situation element. These relations can be summarized as below.

- (24) [time [frequency [temporal relations [manner – event]]]]

The elements that expand the core of a sentence's structure are not arranged at the linear level but are arranged in a layered structure as shown in (24).

### 3.2 The basic structures of adjectival and nominal sentences

The basic structures of adjectival and nominal sentences, which do not express dynamic events, are quite different from verbal sentences.

- (25) *Kare wa Kyotoo no tiri ni kuwasii.*  
 he TOP Kyoto GEN geography DAT knowledgeable.CONCL  
 'He is knowledgeable about the geography of Kyoto.'

- (26) *Hiroshi wa Yoko to tomodati da.*  
 Hiroshi TOP Yoko COM friend COP/CONCL/NONPOL  
 'Hiroshi is friends with Yoko.'

- (27) *Kanozyo wa gakusei desu.*  
 she TOP student COP/CONCL/POL

In adjectival and nominal sentences, there is not found the governing power and nuclearity of the predicate word found in verbal sentences. Granted, there are cases when elements other than the *ga*-marked element are required. In (25) the *ni*-marked element is required and in (26) the *to*-marked element is required. However, there is not the variety of combinations of required case-marked elements found with verbal sentences. For the vast majority of cases, the *ga*-marked element (the so-called subject) alone is sufficient. Furthermore, even the *ga*-marked element does not appear as something required by the predicate word, but has a status essentially equal to that of the predicate word.

- (28) *Kaki no mi wa akai.*  
 persimmon GEN fruit TOP red.CONCL  
 'The fruit of the persimmon is red.'

- (29) *Kaki no mi ga akai.*  
 persimmon GEN fruit NOM red.CONCL  
 ‘The persimmons are red.’

In adjectival and nominal sentences, normally the subject takes the particle *wa* that shows topic. (28) is such an example. The cases when the subject can be shown by *ga* and not receive the exhaustive listing interpretation are ones like (29), in which a temporary state, a situation whose existence is temporally limited, is expressed.

When an adjectival or nominal sentence expresses a temporary state, it can still take a number of expansion elements, but when they express attributes of a person or thing, the expansion elements that can co-occur with the predicate word are extremely limited.

- (30) *Sonokoro boku wa sibasiba onaka ga itakat -ta.*  
 those.days I TOP frequently stomach NOM painful.ADVL PST  
 ‘Those days I often had stomachaches.’

- (31) \**Anokoro kare wa Hokkaido-syussin dat -ta*  
 those.days he TOP Hokkaido-birthplace COP.ADVL PST  
 ‘Those days, his birthplace was Hokkaido.’

(30) expresses a temporary state. In (30), the predicate word can co-occur with the temporal situation element *sonokoro* and the frequency modifying element *sibasiba*. In contrast, (31) expresses an attribute that, once acquired, cannot be changed. In a sentence like this, not even a temporal situation element (in this example, *anokoro*) can co-occur.

## 4 The layeredness of the clause

There is a type of sentence called a complex sentence. This is a sentence composed of more than one clause. Among the clauses are the main clause, which forms the sentence, and a clause or clauses subordinate to the main clause called subordinate clauses. As has been well-known ever since it was advocated by Minami (1974, 1993), there are varying degrees of subordination among clauses, including main clauses. There exist embedding relations among the types of clauses depending on the degree of subordination of the clause, in which clauses embed other clauses or are embedded within them.

- (32) *Memo o tori -nagara hanasi o*  
 notes ACC take.ADVL CONJCTPART/MAN talk ACC  
*kiku -to, yoku waku*  
 listen.CONCL CONJCTPART/COND well understand.CONCL

*-node,*                      *memo o toroo to*  
 CONJCTPART/REAS   notes   ACC   take.INTF   QUOT  
*omot -ta ga,*                      *nooto ga*  
 think.ADVL   PST   CONJCTPART/COO R   notebook   NOM  
*mitukara nakat -ta.*  
 be.found.IRR   AUX/NEG.ADVL   PST

‘Since I understand better when I take notes as I listen to the talk, I went to take notes, but I couldn’t find my notebook.’

In (32), *memo o tori.nagara* is a manner clause describing how the action of [*hanasi o kiku*] takes place and is therefore, embedded within the conditional clause *hanasi o kiku to*. The combination *memo o tori.nagara hanasi o kiku.to* is further embedded within the reason clause *yoku wakaru.node*. Furthermore, that whole combination is further embedded into the adversative coordinate clause *memo o toroo to omotta.ga*, yielding the complex composite *memo o tori.nagara hanasi o kiku.to, yoku wakaru.node, memo o toroo to omotta.ga*. Finally, this whole thing is embedded within the main clause *nooto ga mitukaranakatta* producing (32).

That is, the structure of the whole of (32) is the layered structure shown below.

- (33) [ [[[ [manner clause] conditional clause] reason clause] coordinate clause] main clause]

Japanese complex sentences are formed with the clauses taking a layered structure. As will be touched upon a little bit later on, the grammatical categories a predicate takes are constrained by the degree of embedding of the clause. Fewer grammatical categories can appear in highly subordinate clauses located deep inside. As the degree of subordination decreases, the number of grammatical categories that can appear increases. In the main clause, basically any grammatical category can appear.

## 5 Grammatical categories appearing in the predicate

A variety of grammatical categories can appear in a verbal sentence. In Japanese, the grammatical categories appear as morphological changes in the words making up the predicate. The term “morphological changes” is used in a broad sense. Morphological changes in Japanese are realized through a variety of morphological means. Among the morphological changes, there may be alternations in word endings, addition of affixes, or addition of supplementary words.

The types of grammatical categories appearing vary depending on the type of clauses forming the sentence, differences in the parts of speech forming the predicate, or more accurately, differences in the lexical and grammatical type of the predicate, the type of meaning expressed by the sentence, and the sentence type from the view of its speech and communicative function.

Among the grammatical categories appearing in a predicate are: voice, aspect, polarity, tense, cognitive modality, speech and communicative modality, and politeness. Among these grammatical categories, there are some whose appearance is heavily influenced by the type of clause the predicate occurs in and some whose appearance is heavily influenced by the lexical and grammatical type of the predicate.

Nitta (2009a) broadly divides the grammatical categories into two types. The grammatical categories whose appearance is constrained by the lexical and grammatical type of the predicate Nitta (2009a) terms lexico-grammatical categories and those that can appear with a variety of predicate types without regard to lexico-grammatical types he termed pure grammatical categories. Being able to appear with a variety of predicate types means that they can appear not only with verbal predicates but also with adjectival and nominal predicates.

## 5.1 Lexico-grammatical categories

Let us start by looking at the lexico-grammatical categories, the appearance of which is constrained by the lexical and grammatical type of the predicate. The lexico-grammatical categories are voice and aspect.

When looking at voice in Japanese, as is well known, there are two types of passives, the direct passive, which is in direct opposition with the active, and the indirect passive. Here we will take up the direct passive as the primary representative of voice. The direct passive stands in opposition to the active.

- (34) *Hiroshi wa Yoko o yosasiku nagusame -ta.*  
 Hiroshi TOP Yoko ACC gently console.ADV PST  
 ‘Hiroshi gently consoled Yoko.’

- (35) *Yoko wa Hiroshi ni yosasiku nagusame -rare -ta.*  
 Yoko TOP Hiroshi DAT gently console.IRR AUX/PASS.ADV PST  
 ‘Yoko was gently consoled by Hiroshi.’

(34) is an active sentence and (35) is a direct passive sentence. As shown in (35) the form showing the meaning of direct passive is made by adding an auxiliary verb (*ra*)*reru* acting as a suffix to the active form of the verb. The active and passive verbs can be seen as an opposition of the verb forms [*nagusame-ru* – *nagusame-rare-ru*].

Voice can only appear in a verbal predicate. Furthermore, even with a verbal predicate, it is not the case that voice can occur with all verbal predicates. There

are constraints on the verbal predicates with which the direct passive can appear. A generalization about the predicates with which the direct passive can appear is not as simple as for aspect. Even so, some characteristics can be adduced. Taking up only a part of the required characteristics, the following can be said. Verbs that can be used in the direct passive must be verbs that take at least two noun phrase arguments. However, even though they take two arguments, verbs like *naguriau* ‘hit each other’, *tatakau* ‘battle’, *koosaisuru* ‘associate’, or *wakareru* ‘separate, part’, which have a meaning of reciprocal action or mutual influence, cannot appear in a direct passive. Verbs that take the direct passive are verbs like *naguru* ‘hit’, *taosu* ‘knock down’, *amaeru* ‘take advantage of’, *suteru* ‘discard’, which have a meaning showing an action extended unilaterally from the agent toward an object.

- (36) *Hiroshi wa Yoko ni yorikakara -re -ta.*  
 Hiroshi TOP Yoko DAT lean.on.IRR PASS.ADVL PST  
 ‘Hiroshi was leaned on by Yoko.’

- (37) \**Kabe wa Yoko ni yorikakara -re -ta.*  
 wall TOP Yoko DAT lean.on.IRR PASS.ADVL PST  
 ‘The wall was leaned on by Yoko.’

(36) is a grammatical sentence but (37) is not. Both (36) and (37) show an action extended unilaterally from the actor, but in (36) the target of the action, Hiroshi, can feel the effect of the extension of the action. In contrast, in (37), the target of the action, the wall, is not so affected by the action. A direct passive occurs more easily in cases showing an action expressed by the verb that affects the object.

Aspect is also a grammatical category that is constrained by the lexical and grammatical type of the predicate word.

- (38) *Sukosi mae Hiroshi wa siken o uke -ta.*  
 a.little before Hiroshi TOP exam ACC take.ADVL PST  
 ‘A little bit earlier, Hiroshi took an exam.’

- (39) *Sukosi mae Hiroshi wa siken o ukete i -ta.*  
 a.little before Hiroshi TOP exam ACC take.GER AUXV.ADVL PST  
 ‘A little bit earlier, Hiroshi was taking an exam.’

Basically, aspect consists of the opposition between imperfective and perfective, as in (38) and (39). Imperfective aspect is formed by adding the auxiliary verb *iru* to the *te*-form of the verb. Perfective and imperfective can be seen as an opposition between two verb forms, as in [*uke-ru* – *uke-te-ru*].

Aspect can only appear with a verbal predicate. Furthermore, even with a verbal predicate, it is not the case that aspect can appear with all verbal predicates. Verbs



with which aspect can appear are verbs that show action, like *taberu* ‘eat’ as in [*tabe-ru* – *tabe-te-i-ru*]. Verbs that show states or attributes like *aru* ‘exist, have’ to not have a form like *atteiru*. Aspect does not appear with verbs like these. Also, in Japanese, a homophonous *teiru* form shows a different type of continuing state. The lexical type of the verb is involved with this form as well.

- (40) *Kodomo ga okasi o tabete -iru.*  
 child NOM candy ACC eat.GER AUXV/PROG  
 ‘The child is eating the candy.’

- (41) *Otoko ga yuka ni taorete -iru.*  
 man NOM floor LOC fall.GER AUXV/RES  
 ‘The man lies fallen on the floor.’

In (40) *tabeteiru* shows the continuing state of an action that is on-going and in (41) *taoreteiru* shows a continuing state that arises in the subject, the ending result of an action. Verbs that show the former meaning are ones like *aruku* ‘walk’, *tataku* ‘hit’, or *kowasu* ‘crush’, and verbs that show the latter meaning are ones like *sinu* ‘die’, *iku* ‘go’, or *kowareru* ‘break’. Okuda (1985) characterizes the two groups of verbs, calling them verbs that show an action of the subject and verbs that show a change in the subject. Kudō (1995) and Nitta (2010) present more detailed analyses of the relation between aspect and the lexical type of a verb.

The type of clause does not greatly affect the lexico-grammatical categories. They also appear in clauses high in subordination. This is especially true of voice.

- (42) *Kare wa minna ni tasuke -rare*  
 he TOP everyone DAT aid.IRR PASS.ADV  
*-nagara yama o nobot -ta.*  
 CONJCTPART/MAN mountain PATH climb.ADV PST  
 ‘Helped by everyone, he climbed the mountain.’

As can be seen in (42), the direct passive appears in a *nagara* manner clause, the kind of clause highest in subordination.

## 5.2 Grammatical categories appearing in various types of predicates

The purely grammatical categories, which can appear with any type of predicate, include polarity, tense, and politeness. Instead of being constrained by the lexical and grammatical type of the predicate, these grammatical categories are greatly constrained by the type of clause in which the predicates appear, or, in other words,

are constrained by the structural position of the sentence in which the predicate appears. The types of clauses in which polarity, tense, and politeness can appear are all different.

Using the cases of the verb *tukamu* ‘grab’, the adjective *hiroi* ‘wide’, and the noun *gakusei* ‘student’ being used as predicates as examples, the forms showing the oppositions of polarity, tense, and politeness are illustrated below.

- |      |   |   |  |                     |
|------|---|---|--|---------------------|
| (43) | <i>tukamu</i><br>grab.ROF/AFF<br>‘grab’                               | – | <i>tukama</i><br>grab.IRR<br>‘not grab’                    | <i>-nai</i><br>NEG  |
| (44) | <i>tukamu</i><br>grab.ROF/NONPST<br>‘grab’                            | – | <i>tukan</i><br>grab.ADV<br>‘grabbed’                      | <i>-da</i><br>PST   |
| (45) | <i>tukamu</i><br>grab.ROF/PLN<br>‘grab’                               | – | <i>tukami</i><br>grab.ADV<br>‘grab’                        | <i>-masu</i><br>POL |
| (46) | <i>hiroi</i><br>wide.ROF/AFF<br>‘wide’                                | – | <i>hiroku</i><br>wide.ADV<br>‘not wide’                    | <i>-nai</i><br>NEG  |
| (47) | <i>hiroi</i><br>wide.ROF/NONPST                                       | – | <i>hirokat</i><br>wide.ADV                                 | <i>-ta</i><br>PST   |
| (48) | <i>hiroi</i><br>wide.ROF/PLN<br>‘wide’                                | – | <i>hiroi</i><br>wide.CONCL<br>‘wide’                       | <i>-desu</i><br>POL |
| (49) | <i>(gakusei) da</i><br>student COP/ROF/AFF<br>‘(He) is a student.’    | – | <i>(gakusei) de</i><br>COP.ADV<br>‘(He) is not a student.’ | <i>-nai</i><br>NEG  |
| (50) | <i>(gakusei) da</i><br>student COP/ROF/NONPST<br>‘(He) is a student.’ | – | <i>(gakusei) dat</i><br>COP.ADV<br>‘(He) was a student.’   | <i>-ta</i><br>PST   |
| (51) | <i>(gakusei) da</i><br>student COP/ROF/PLN<br>‘(He) is a student.’    | – | <i>(gakusei) desu</i><br>COP.POL<br>‘(He) is a student.’   |                     |

(43), (44), and (45) are verbal predicate examples, (46), (47), and (48) are adjective predicate (more precisely, *i*-adjective predicate) examples, and (49), (50), and (51) are nominal predicate examples. Nominal predicates take the form of a noun with the copula attached. (43), (46), and (49) are examples showing the polarity oppositions

with the forms on the left showing grammatically affirmative meanings and the forms on the right being negative forms. (44), (47), and (50) are examples showing the tense oppositions with the forms on the left being non-past forms and those on the right past forms. (45), (48), and (51) are examples showing politeness oppositions with the forms on the left being plain forms and the forms on the right polite forms. The forms on the left are the unmarked forms and those on the right are marked.

The following are examples in which polarity, tense, and politeness all appear in their marked forms.

- (52) *Sensei wa gakusei o metta.ni sikari*  
 teacher TOP student ACC almost.never scold.ADVL  
*-mase -n -desi -ta.*  
 AUX/POL.ADVL NEG AUX/POL.ADVL PST  
 ‘The teacher almost never scolded the students.’

- (53) *Kono hon wa sahodo takakuari*  
 this book TOP to.a.great.extent expensive.ADVL  
*-mase -n -desi -ta.*  
 POL.ADVL NEG POL.ADVL PST  
 ‘This book wasn’t all that expensive.’

- (54) *Kare wa hongaku no gakusei deari*  
 he TOP this.school GEN student COP.ADVL  
*-mase -n -desi -ta.*  
 POL.ADVL NEG POL.ADVL PST  
 ‘He was not a student at this school.’

Accordingly, the grammatical meaning expressed in (52), (53), and (54), is, for all of them, negative, past, and polite. The forms *sikari-mase-n-desi-ta*, *takakuari-mase-n-desi-ta*, and *gakusei deari-mase-n-desi-ta* also have the alternate forms *sikara-nakat-ta-desu* (scold.IRR-NEG.ADVL-PST-POL), *takaku-nakat-ta-desu* (expensive.ADVL-NEG.ADVL-PST-POL), and *(gakusei) de-nakat-ta-desu* (COP.ADVL-NEG.ADVL-PST-POL), respectively.

- (55) *Asu sensei wa gakusei o sikaru*  
 tomorrow teacher TOP student ACC scold.CONCL  
 ‘Tomorrow the teacher will scold the student.’

When used as the clause-final predicate in the main clause, as in (55), *sikaru* appears in its simplest form, but it still shows the grammatical meanings affirmative, non-past

(future in this case), and plain style. In other words, in a structural context in which the grammatical categories of polarity, tense, and politeness are expressed, the unmarked form *sikaru* is the form that expresses the grammatical meanings of affirmative, non-past, and plain style. The unmarked form also expresses affirmative, non-past, and plain style with adjective predicates like *takai* ‘expensive’ and nominal predicates like *gakusei da*.

In Japanese, there are various morphological forms that express the grammatical meanings associated with the grammatical categories born by the predicate; they string together one after another to create a form that expresses complex grammatical meanings. In that sense, it would appear that an IA (Item and Arrangement) analysis would apply quite well, but that is only when all the meanings are expressed in their marked forms. In order to correctly capture the grammatical meanings expressed by unmarked forms, it is necessary to compare and contrast the respective words in a word paradigm table. The importance of situating the lexical item in a word form opposition and extracting the grammatical categories and the importance of accurately capturing the grammatical meanings expressed by the unmarked forms is strongly argued by such researchers as Okuda (1985), Takahashi (1994) and Suzuki (1996).

### 5.3 Polarity

Polarity is the grammatical category that expresses whether or not a given action, state, or attribute pertains to the person or thing that occupies the subject position. In Japanese, a form that does not have a morpheme expressing negation attached is not unspecified for affirmative versus negative. The forms *ugoku* ‘move’, *ugoita* ‘moved’, and *ugokimasu* ‘move.POL’, and *hiroi* ‘wide’, *hirokatta* ‘was wide’, and *hiroidesu* ‘wide.POL’, as well as *(gakusei)da* ‘is (a student)’, *(gakusei)datta* ‘was (a student)’, and *(gakusei)desu* ‘is (a student).POL’ are all affirmative forms. In order to express negation, the word must be changed into a negative form with a morpheme expressing negation attached. Looking just at verbal predicates, the negative forms are: *ugoka-nai* ‘don’t move’, *ugoka-nakat-ta* ‘didn’t move’, and *ugoki-mase-n* ‘don’t move.POL’. The grammatical category of polarity is manifested by the opposition between the affirmative and negative forms of the predicate.

Unlike languages like English, the use of a negative polarity item (NPI) like *hitori.mo* ‘even one person’ or *metta.ni* ‘almost never’ alone does not make the sentence negative.

- (56) \**Kare wa metta.ni niku o taberu.*  
       he TOP almost.never meat ACC eat.CONCL

- (57) *Kare wa metta.ni niku o tabe -nai.*  
       he TOP almost.never meat ACC eat.IRR NEG  
       ‘He almost never eats meat.’

(56) is a sentence with the predicate in the affirmative form, in spite of co-occurring with an NPI. In Japanese, (56) not only does not show negation, it is ungrammatical. A predicate must be put into its negative form in order to co-occur with an NPI.

Polarity is a grammatical category that can appear even in highly subordinate clauses. Polarity can occur in conditional clauses, but not in manner clauses.

- (58) *Sikkari tabe -nake -reba*  
 properly eat.IRR NEG CONJCTPART/COND  
*tairyoku ga otiru yo.*  
 strength NOM fall.CONCL SFP  
 ‘If you don’t eat properly, your strength will weaken.’

- (59) *Okasi o tabe -nagara*  
 candy ACC eat.ADVL CONJCTPART/MAN  
*otoko wa hon o yonde -i -ta.*  
 man TOP book ACC read.GER AUXV PST  
 ‘The man was reading a book as he ate (some) candy.’

- (60) \**Okasi o tabe -nai -nagara*  
 candy ACC eat.IRR NEG CONJCTPART/MAN  
*otoko wa hon o yonde -i -ta.*  
 man TOP book ACC read.GER AUXV PST  
 ‘The man was reading a book as he didn’t eat (some) candy.’

As shown by (58), negation can appear in a conditional clause. The grammatical category of polarity, then, can appear in a conditional clause. Thus, there is also the form *tabe-reba* ‘eat-CONJCTPART/COND’ incorporating the affirmative meaning. (59) is grammatical, but (60) is not. A *nagara* manner clause does not take negation. Because of the fact that it cannot have an affirmative – negative opposition, it can be said that the grammatical category of polarity does not appear in a *nagara* manner clause.

## 5.4 Politeness

Politeness in Japanese is a grammatical category that expresses the manner in which one speaks, that is, with what sort of treatment stance towards the listener the speaker utters a sentence. Politeness is shown by changes in the form of the predicate word. In Japanese, a form that does not have a morpheme expressing politeness attached is not unspecified for polite style versus plain style. The forms *ugoku* [move. CONCL] ‘move’, *ugoka-nai* [move.IRR-NEG] ‘not move’, and *ugoi-ta* [move.ADVL-PST]

‘moved’ are all forms showing plain style. In contrast, *ugoki-masu* [move.ADV-L-POL] ‘move’, *ugoki-mase-n* [move.ADV-L-POL-NEG] ‘not move’, and *ugoki-masi-ta* [move.ADV-L-POL-PST] ‘moved’ are all forms expressing polite style. The polite style are forms showing the speaker’s consciousness of the listener and his consideration in relating the sentence to the listener in a polite manner. In contrast, the plain form is a form that relates the sentence neutrally, without particularly recognizing the existence of the speaker or including the consideration of relating the sentence in a polite manner. In Japanese, predicate forms appearing in a structural context in which the grammatical category of politeness can appear are either polite-style forms or plain-style forms.

However, although politeness can be expressed by changes in the form of a predicate, there are cases in which politeness cannot be determined within the scope of a single sentence. Politeness involves the style of a text as a whole. Even in a text that is basically in the polite style, there may occasionally appear plain-style forms. However, the occasional appearance of a plain-style form does not destroy the polite style of the text.

Politeness is a grammatical category that is deeply related to the whole of a text. Texts in which the polite style appears and in which there is an opposition between polite style and plain style are discourse-type texts. In monologue-type texts, the polite style does not appear; only the plain style appears.

- (61) *Kare wa kitto yakusoku o mamori -masu.*  
 he TOP surely promise ACC keep.ADV-L POL  
 ‘He will surely keep his promise.’

- (62) \**Kare wa kitto yakusoku o*  
 he TOP surely promise ACC  
*mamori -masu to omot -ta*  
 keep.ADV-L POL QUOT PART think.ADV-L PST

- (63) *Kare wa kitto yakusoku o*  
 he TOP surely promise ACC  
*mamoru to omot -ta*  
 keep.CONCL QUOT PART think.ADV-L PST  
 ‘I thought he would surely keep his promise.’

The predicate of (61) is in the polite style. As (62) shows, a sentence with the predicate in the polite-style form cannot be embedded as a quote to a psychological verb like *omou* ‘think’. What can appear as the quoted part of *omou* is a sentence in the plain form, as in (63). The quoted part of *omou* is self-directed speech. Self-directed

speech is a monologue that naturally does not require a listener. From these examples, it is apparent that in monologues only plain-style forms can appear, not polite-style forms. In monologues, there is no opposition between polite style and plain style.

Politeness is a grammatical category that involves the relation between the speaker and the hearer. However, unlike modality, it can appear in clauses high in subordination. Politeness does not appear in manner clauses, but there are times it appears in conditional clauses.

- (64) *Kado o migi ni magari -masu -to*  
 corner PATH right DIR turn.ADVL POL CONJCTPART/COND  
*yuubinkyoku ga ari -masu.*  
 post.office NOM exist.ADVL POL  
 'If you turn the corner to the right, there is a post office.'

The *magari-masu-to* in (64) is a predicate in a conditional clause and takes a polite-style form. However, appearance of the polite style with the predicates of conditional clauses is rare. Mio (1958:249) studied how often the predicate of a subordinate clause appeared in the polite form when the main clause predicate was polite. The results were 7.3% of the time for *to* conditional clauses, 28% of the time for *node* reason clauses, and 94.5% of the time for *ga* adversative coordination clauses. Unlike polarity, with politeness, the predicate of each single subordinate clause does not maintain the opposition of a characteristic grammatical category. If the predicate of the main clause takes a polite-style form, even though the predicate of a subordinate clause may be in the plain form, it is influenced by the polite-style form of the main predicate and takes on the grammatical meaning of polite style. The figures from the study in Mio (1985) show the degree to which, in terms of the grammatical category or politeness, the predicate of a subordinate clause is influenced by the form of the main clause. The type that is most easily influenced by the main clause, for which the necessity of showing an opposition of characteristic forms is lower, is the *to* clause. In contrast, the type for which the need to show opposition of characteristic forms is high the adversative coordination *ga* clause.

## 5.5 Tense

Although there are also exceptional uses, tense is the grammatical category that expresses with regard to a time-limited event a temporal earlier than or later than relationship between a reference time and the time of the event the sentence is describing. In a main clause, the reference time is basically the time of speech.

In Japanese, tense is expressed by changes in the form of the predicate. Tense can be either past or non-past. The non-past form is not limited to *ugoku*

[move.CONCL] ‘move’, but *ugoka-nai* [move.IRR-NEG] ‘not move’, and *ugoki-masu* [move.ADV-L-POL] are also non-past forms. The past forms that stand in opposition are *ugoi-ta* [move.ADV-L-PST] ‘moved’, *ugoka-nakat-ta* [move.IRR-NEG.ADV-L-PST] ‘didn’t move’, and *ugoki-masi-ta* [move.ADV-L-POL.ADV-L-PST] ‘moved’, respectively.

Tense appears in all type of predicate: verbal, adjectival, and nominal. The appearance of tense is not constrained solely by the lexical and grammatical type of the predicate. Although how tense is expressed is influenced by the lexical and grammatical type of the predicate, what ultimately influences its expression is the semantic type of the event the sentence expresses and the sentence type as viewed from its speech-communication function.

In terms of speech-communication function there are imperative and intentional sentences. Tense does not appear in these. Events shown by imperatives and intentional sentences are all unrealized events. The predicates of imperative and intentional sentences take forms in which there is no way of showing tense, as in *ugok-e* [move.IMP] ‘Move!’, *ugoi-tekure* [move.ADV-L-GER.give.IMP] ‘Move, please’, and *ugok-oo* [move.INTF] ‘Let’s move!’. The types of sentences in which tense appears are declarative and interrogative sentences. However, not all tense forms appearing in declarative and interrogative sentences express a proper tense meaning. Whether the forms express the proper tense meaning of the occurrence of an event being earlier or later with respect to the time of speech is influenced by the semantic type of the event. It is in sentences that express actions or states that the meaning of proper tense is realized in declarative and interrogative sentences. In sentences that express attributes of people or things that are not easily changed, the tense meanings that tense forms express are different from the normal meanings.

- (65) *Sakuzitu kare wa siken o uke -ta.*  
 the.other.day he TOP exam ACC take.ADV-L PST  
 ‘The other day he took an exam.’

- (66) *Sakuya boku wa onaka ga itakat -ta.*  
 last.night I TOP stomach NOM hurt.ADV-L PST  
 ‘Last night I had a stomachache.’

- (67) *Nara no daibutu wa ookikat -ta.*  
 Nara GEN large.statue.of.Buddha TOP big.ADV-L PST  
 ‘The large statue of Buddha in Nara was big.’

The type of events expressed by these sentences are: (65) action, (66) state, and (68) attribute. The action and states have a temporary existence that will disappear after the passage of some period of time. In contrast to these, attributes are something with which a person or thing is furnished and are not something that are time-bound in the sense that they exist only for a limited period of time. The past tense



form in (65) shows that the event of the subject's taking an exam occurred in the past. In the same way, the past tense in (66) shows that the situation of having a stomachache happened in the past. In contrast, the past tense in (67) does not show a period of existence for the situation of Nara's statue of Buddha being big. The past form in (67) involves a cognitive-experiential time and shows that the speaker became conscious of and experienced a situation in the past. The past tense appearing in attribute sentences does not express the usual tense meaning.

Tense does not appear in highly subordinate clauses.

- (68) *Ame ga huru node,*  
rain NOM fall.CONCL CONJCTPART/REAS  
*sentakumono o toriire -ta.*  
laundry ACC take.in.ADVL PST  
'Since it was about to rain, I took in the laundry.'

- (69) *Ame ga hut -ta node,*  
rain NOM fall.ADVL PST CONJCTPART/REAS  
*sentakumono o toriire -ta.*  
laundry ACC take.in.ADVL PST  
'Since it had rained, I took in the laundry.'

- (70) *Kare ni at -ta ga,*  
he DAT meet.ADVL PST CONJCTPART/COORD  
*sono mae ni kanozō ni mo at -ta.*  
that before TEMLOC she DAT PART meet.ADVL PST  
'I met him, but before that I met her.'

A *node* reason clause is comparatively low in subordination. As shown in (68) and (69), even in a *node* reason clause the non-past versus past forms of the predicate do not show earlier or later with respect to speech time as reference time. Instead, the reference time with respect to which it expresses earlier or later than is the event time of the main clause. The predicate of the subordinate clause in (70) is in the past tense form. However, the event of the subordinate clause did not happen before the event of the main clause, but happened after. In (70), the past tense of the predicate of the subordinate clause, like the main clause, takes speech time as the reference time relative to which it expresses earlier or later than. It is the *ga* adversative coordination clause, which is extremely low in subordination, that takes speech time as the reference time relative to which it expresses earlier or later than.

As a string of words has a temporal situation element added and the predicate expresses tense, it moves even closer to becoming a complete sentence.

## 6 Toward becoming a sentence

A sentence can be broadly divided into a part that expresses a proposition and a part that expresses modality. The proposition is, broadly speaking, the part in which the speaker expresses an objective happening or circumstance he has taken note of in the external world or in his internal world. The proposition part includes the grammatical categories through polarity, politeness, and tense.

Proposition and modality basically have the following layered structure.

(71) [[proposition] modality]

This layered structure is not at a string level but is on the structural level.

(72) *Zannen.na koto ni tabun kono hukeiki,*  
 unfortunate.ADN matter COP/ADVL probable this recession  
*toobun tuzuku daroo ne.*  
 for awhile continue.CONCL PRES SFP  
 ‘It’s unfortunate, but this recession will probably continue for a while, don’t you think?’

Taking (72) as an example, proposition and modality can be shown as follows.

(73) [*Zannen.na koto ni* [*kono hukeiki, tooban tuzuku*] *daroo ne*]

Nitta (1991, 2009b) establishes cognitive modality and speech-communicative modality as core modalities.

(74) *Kare wa siken o uke -nakerebanaranai -daroo.*  
 he TOP exam ACC take.ADVL DUTY PRES  
 ‘He will probably have to take an exam.’

As shown in (74), so-called deontic modality can have cognitive modality added to it and, compared to cognitive modality, has a strongly objective character.

Cognitive modality expresses how the speaker apprehends the proposition cognitively. Cognitive modality is basically expressed by changes in the form of the predicate word. Cognitive modality can, as a first cut, be divided into judgements taking the circumstances expressed by the proposition as being something certain, and conjectures taking the proposition as something uncertain from one’s imagination or from inference. Judgements are shown by unmarked forms like *suru* [do.CONCL], or *takai* [expensive.CONCL]. Conjecture is shown by the addition of an auxiliary verb as in *suru daroo* [do.CONCL PRES] ‘will probably do’ or *takai daroo*

[expensive.CONCL PRES] ‘is probably expensive’. There are also expressions of cognitive modality that involve probability. These are expressed by the addition of an auxiliary verb equivalent as in *suru-kamosirenai* [do.CONCL-for.all.I.know] ‘may do’ or *takai-nitigainai* [expensive.CONCL-without.a.doubt] ‘definitely expensive’. Furthermore, there are also expressions of cognitive modality that involve evidentiality. These are expressed by the addition of auxiliary verbs, as in *suru-rasii* [do.CONCL-seems] ‘it seems he will do’ or *takai-yooda* [expensive.CONCL-apparent] ‘it is apparently expensive’.

Speech-communicative modality are expressions of how the speaker conveys the proposition or the proposition with cognitive modality added to realize a given communication function. Speech-communicative modality includes declarative, interrogative, imperative and intentional. It is only with declarative that a variety of cognitive modality forms appear.

- (75) *Asu wa ame ni naru -daroo.*  
 tomorrow TOP rain DAT become.CONCL PRES  
 ‘It will probably rain tomorrow.’

- (76) *Sugu yamete -kudasai.*  
 immediately stop.GER AUXV/REQ  
 ‘Please stop that immediately.’

- (77) *Asu wa ame ni naru daroo*  
 tomorrow TOP rain DAT become.CONCL PRES  
*ga, asatte wa hareru daroo.*  
 CONJCTPART/COORD day.after.tomorrow TOP clear.up.CONCL PRES  
 ‘It will probably rain tomorrow, but it will probably clear up the day after.’

- (78) \**Sugu yamete -kudasai ga*  
 immediately stop.GER AUXV/REQ CONJCTPART/COORD  
*nakanaka yame -nai.*  
 quite stop.IRR NEG  
 ‘Please stop that immediately, but (they) just don’t stop.’

In (75) only cognitive modality appears in an explicit form as *daroo*. In (76) speech-communicative modality appears explicitly in the form *tekudasai*. As shown in (77), even if a string of words includes cognitive modality, it can form part of a sentence as a subordinate clause. In contrast, (78) is ungrammatical. Once a string of words is formalized explicitly as having speech-communications modality, it cannot no longer become part of another sentence. By including speech-communicative modality, a string of words becomes a sentence.

The sentence is the fundamental unit of linguistic activity. A string of words forms a proposition expressing the necessary grammatical categories appropriately and the addition of modality to the proposition completes the sentence. Ultimately, a string of words has no existence as a unit below the sentence unit and it is the speech-communicative modality that makes the string a sentence.

## 7 On how to treat modality

In this chapter we have adopted capturing and identifying grammatical categories from the oppositions seen in predicate word paradigms as a way of analyzing and describing the meaning expressed by the forms of expression in a sentence. Naturally other ways of analyzing and describing grammatical categories have been put forth. For example, there is the position advocating analyzing and describing sentence meaning giving weight to the meanings of the auxiliary verbs and particles that express the grammatical meanings.

Within the grammatical categories as well, there have been a variety of proposals on how to treat modality. In this chapter, modality has been situated as one of the grammatical categories expressed by the predicate. In this case, to put it more precisely, this means that modality is one of the morphological categories expressed by changes in the form of the predicate. Modality is realized by changes in the forms of the predicates in a broad sense, including changes in suffixes as in *hasire* [run.IMP] ‘Run!’, the addition of an auxiliary verb as in *hasiru-daroo* [run.CONCL-PRES] ‘(He’ll) probably run’, or the addition of a particle as in *hasiru-kana* [run.CONCL-PART] ‘I wonder whether he’ll run’. However, although the grammatical categories may be realized through changes in the form of the predicate, the scope within which the respective grammatical categories operate is determined. The breadth of the scope within which the respective grammatical categories operate differ among categories. For example, aspect does not operate on a structure in which tense is realized but, rather, tense operates on a structure in which aspect is realized. That is, the scope of tense is broader than the scope of aspect. Concerning the cognitive modality expressed by *daroo*, the form itself never appears in a past tense form. *Daroo* does not bear tense. The scope of the cognitive modality expressed by *daroo* is broader than the scope of tense. That is, the cognitive modality expressed by *daroo* takes as its scope of operation a sentence structure that is already furnished with tense.

This chapter has adopted the position that the basic semantic and syntactic structure of a sentence is formed by a proposition and modality. To further state the position: putting aside exceptions, a sentence is formed by the proposition’s taking on modality. This kind of position is influenced by one traditional thread in the theory of sentence formation in Japanese grammar studies like Tokieda (1931) and

Watanabe (1971). The view of modality in this chapter is one that goes in the direction of taking the sentence as a unit of linguistic activity and extracting the conditions for the formation of sentence as a unit of linguistic activity.

Naturally, there are other positions concerning how to treat the sentence and other views of modality. One influential position is that of Onoe (2004, 2014). Onoe's ideas are presented in a comprehensive form in the commentary entries he wrote for Nihongo Bunpō Gakkai (2014). Onoe (2014) takes the position that, in a sentence like *Neko ga nete-iru* [cat NOM sleep.GER-AUXV.CONCL] 'A cat is sleeping,' some kind of existential recognition is expressed through the linking of the subject *neko ga* and the predicate *nete-iru* and through this a sentence is formed. The subject expresses something that exists and the predicate expresses the manner in which it exists. Also, for him, the specialized sentence-final forms for the purpose of speaking of an event in an unreal world are modal forms and the meaning that is brought to the sentence by these modal forms is modality. Onoe (2004) labels this position a theory of modality as a theory of moods. Thus, in the case when one is speaking of an event in the real world, without including any specialized modal forms, there is no modality included. That is, modality is a question of the form of the predicate as constituent in opposition to the subject and moreover, is a question of whether a sentence takes a specialized form.

In Onoe (2014) the following are given as modal forms. First, forms in which the auxiliary verbs *-yoo*, *-mai*, and *-bekida* appear are given, such as *uke-yoo* [take.INTF] 'let's take', *ukeru-mai* [take.CONCL-NEG.PRES] 'probably will not take', and *ukeru-bekida* [take.CONCL-OBLIGATION] 'ought to take'. These forms are called the predicate modal forms (*johōkeishiki*). Next, there are forms in which an auxiliary verb equivalent like *-daroo*, *-kamosirenai*, *-yooda*, or *-nakerebanaranai* has been added to a predicate, as in *ukeru-daroo* [take.CONCL-PRES] 'will probably take', *ukeru-kamosirenai* [take.CONCL-for.all.I.know] 'may take', *ukeru-yooda* [take.CONCL-appear] 'looks like (he will) take', and *uke-nakerebanaranai* [take.IRR/DUTY] 'must take'. These auxiliary verb equivalent forms are called predicate-external forms (*jutsugo gaisetsu keishiki*). Whether they are forms resulting from predicate modals or from predicate-external forms, they are all involve the form of the predicate and the recognition of the existence they express is recognition of an existence in an unreal world. Thus, these end up being modal forms. This way of treating modality is probably close to the view of modality in Western linguistics.

In Onoe (2014) cases such as *Aitu wa hannin-daroo* [he TOP criminal-COP/PRES] 'He's probably a criminal' that express a circumstance the reality of which is unconfirmed and cases such as *Gakusei wa hon o yomu -bekida* [student TOP book ACC read.CONCL-OBLIGATION] 'Students ought to read books' that express a circumstance that ought to be realized are given as events in an unreal world. In addition, forms expressing intention, like *Gohan o tabe-yoo* [meal ACC eat.ADV-INTF] 'Let's eat.' or requests, like *Gohan o tabe-ro* [meal ACC eat-IMP] 'Eat!' express circumstances still unrealized and are events in the unreal world.

In contrast to forms like *uke-yoo* or *ukeru-bekida*, forms like *uke-ta* [take.ADVL-PST] ‘took’ and *ukete-iru* [take.GER-AUXV] ‘be taking’ are forms expressing past tense or expressing continuative aspect, that is to say, need to be situated as forms relating events in the real world.

However, there are problems with the following.

- (79) *Kare wa sakuzitu siken o uke -ta.*  
 he TOP the.other.day exam ACC take.ADVL PST  
 ‘He took a test the other day.’

- (80) *Kare wa kitto sakuzitu siken o uke -ta.*  
 he TOP surely the.other.day exam ACC take,ADVL PST  
 ‘He surely took an exam the other day.’

The predicate of both (79) and (80) is *uketa*, a form expressing an event in the real world. In fact, (79), reflecting the type of its predicate, does express an event in the real world. However, even though (80) has the same predicate form used for talking about events in the real world, because it co-occurs with the adverb *kitto* showing degrees of certainty, the sentence actually talks of an event in an unreal world. The phenomenon arises here of a predicate form used for relating events of the real world being used in a sentence relating events of an unreal world.

However, this kind of phenomenon remains a problem as well for the stance adopted in this chapter of treating modality as one grammatical category of the predicate operating over a fixed scope. Modality is a grammatical category that is more difficult to analyze and describe than categories like tense.

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## 2 Transitivity

### 1 Introduction

Broadly understood, transitivity is concerned with the number of nouns (arguments) that a predicate requires in order for the meaning of a sentence containing it to be complete. A predicate that requires two or more such arguments is transitive; a predicate requiring just one is intransitive, as illustrated in (1a) and (1b).

- (1) a. *Kokku ga tamago o wat-ta.* (<*war-ta*)  
cook NOM egg ACC crack-PST  
'The cook cracked the egg.'
- b. *Tamago ga war-e-ta*  
egg NOM crack-INTR-PST  
'The egg cracked.'

By this definition, the predicate *war-u* 'crack<sub>tr</sub>' in (1a) is transitive as it requires two arguments (filled here by *kokku* 'cook' and *tamago* 'egg') while the predicate *war-e-ru* 'crack<sub>in</sub>' in (1b) is intransitive as it requires only one (filled here by *tamago* 'egg'). Understood in this way, transitivity is no different from the concept of valency, which is concerned with the full range of noun arguments required by a predicate.

There is a narrower sense of transitivity, however, that is concerned with a specific kind of noun argument – the direct object, whose presence is a condition for a predicate to count as transitive in this sense. The predicate *war-u* 'crack<sub>tr</sub>' in (1a) above is thus transitive in both the broad and narrow sense, as its second argument can be identified from its accusative case marking *o* as a direct object, whereas the predicates *tiga-u* 'be different' and *onazi-da* 'be the same' in (2) take two arguments (in both examples, *boku no iken* 'my opinion' and *kare no (iken)* 'his (opinion)'), and are therefore transitive in the broad sense, but not in the narrower sense, as neither argument in these examples is a direct object.

- (2) a. *Boku no iken wa kare no to tiga-u/onazi-da.*  
I GEN opinion TOP he GEN COM differ-NPST/be.same-NPST  
'My opinion is different from/the same as his.'
- b. *Ano hito wa boku no ozi ni ataru.*  
that person TOP me GEN uncle DAT correspond-NPST  
'That person is (corresponds to) my uncle.'

Different means are employed across languages for distinguishing the direct object from other arguments of a predicate. In English, direct objects are identified by the position they occupy immediately following the predicate (e.g. *egg* in (1a)), but in Japanese, as seen earlier, by their marking with the accusative case marker *o* (e.g. *tamago o* ‘egg-ACC’ in (1a)). Second arguments in Japanese may be marked in ways other than with accusative *o*, depending on the predicate, such as with comitative *to* ‘with/as/than’ in *kare no (iken) to* ‘his (opinion)’ in (2a) and dative *ni* ‘to/toward’ in *boku no ozi ni* ‘my uncle’ in (2b). Although the default position of all such second arguments in Japanese is immediately adjacent to the predicate – i.e., immediately preceding the predicate in conformity with the SOV typology of Japanese, second arguments, including those marked by accusative *o*, may be “scrambled” to positions non-adjacent to the predicate, such as in (3), with varying pragmatic effects, but no effect on the literal meaning..

- (3) *Tamago o kokku ga wat-ta.*  
       egg       ACC cook   NOM crack<sub>tr</sub>-PST  
       ‘The cook cracked the egg.’

The possibilities for syntactic marking of second arguments, both positionally and in terms of case marking, are therefore more varied in Japanese than in English, where second arguments occur consistently in post-predicate position, differentiated at most by whether a particle or preposition intervenes. The difference between bivalency (taking a second argument) and transitivity (taking a second argument marked as a direct object) is thus more clearly apparent in the syntax of Japanese than in English.

In addition to these two dimensions of transitivity, a semantic one concerned with the number of arguments of a predicate and a syntactic one concerned with what case marking the second argument receives, there is a third, morphological dimension of transitivity in Japanese, reflected in the differing shapes of the transitive verb in (1a) and the intransitive verb in (1b). As we will show, each of these three dimensions defines a class of transitive predicates that is distinct to some extent from the other two. While this might raise doubts as to whether transitivity is in fact a unitary phenomenon in Japanese, this chapter will argue that all three dimensions can in fact be seen to share a common parameter of marking a degree of differentiation between two entities seen to participate in an event, defining a cline along which entities are relatively more or relatively less differentiated, as proposed in Næss (2007). A fundamental question that emerges from this is how some predicates come to be associated with two arguments as opposed to one in the first place, and among predicates associated with two arguments, what conditions must obtain for the second argument to receive special treatment as a direct object, questions that will be taken up in detail in Section 4 of this chapter. As groundwork for this, Section 2 will first lay out a more complete description of the formal characteristics

of transitivity in Japanese, followed by a brief survey in Section 3 of the historical development of transitivity as a grammatical concept in the native Japanese grammatical tradition. Section 5 will be concerned with how the meaning and function of lexical transitive forms interacts with, and cannot be understood independently from, the meaning and function of causative and passive forms in Japanese.

## 2 The formal character of transitivity in Japanese

Alongside the syntactic dimension of transitivity described in the previous section – marking of the direct object with the accusative case marker *o* – there is a second formal dimension of transitivity seen in the marking of transitive and intransitive predicates in Japanese. Specifically, this morphological marking takes the form of affixes distinguishing the transitive and intransitive members of verb pairs such as *war-u* ‘crack (tr.)’ vs. *war-e-ru* ‘crack (intr.),’ *ak-e-ru* (tr.) ‘open (tr.)’ vs. *ak-u* ‘open (intr.),’ *nao-s-u* (tr.) ‘fix’ vs. *nao-r-u* (intr.) ‘become fixed,’ etc. These alternating verb pairs typically enter into sentence patterns such as that seen earlier in (1), repeated here, and exhibiting the syntactic and semantic properties listed in (4).

- (1) a. *Kokku ga tamago o wat-ta.* (<*war-ta*)  
 cook NOM egg ACC crack-PST  
 ‘The cook cracked the egg.’

- b. *Tamago ga war-e-ta*  
 egg NOM crack-INTR-PST  
 ‘The egg cracked.’

- (4) a. The transitive verb requires one noun argument more than the intransitive verb.
- b. The noun arguments of the transitive and intransitive members are case marked as follows, with the accusative noun argument of the transitive member corresponding to the nominative noun argument of the intransitive verb, represented here by NP2 (= *tamago* ‘egg’ in example (1)):
- NP1 *ga* (NOM) NP2 *o* (ACC)  $V_{tr} \leftrightarrow$  NP2 *ga* (NOM)  $V_{in}$
- c. The transitive verb expresses an intentional action; the intransitive verb the result intended by that action.<sup>1</sup>

<sup>1</sup> While the action of the transitive verb always intends an event of the type expressed by the intransitive, the intransitive may also express an event that occurs spontaneously, independent of any action that brings it about.

Although NP2 receives a different case marking in the transitive and intransitive patterns in (4b), it represents in both cases an entity that undergoes a change of state in exactly the same way – in the case of (1) a change from a state of being an integral whole to one of being in several parts – something commonly referred to in the linguistic literature as “theme,” following Gruber (1965). The question may arise then as to why the theme does not receive the same case marking in both the transitive and intransitive case. Such a case marking strategy is in fact adopted in certain, so-called ergative languages, where the transitive object and the intransitive subject receive the same “absolutive” marking and the transitive agent receives an “ergative” case marking distinct from this (Dixon 1994). Illustrating this with Japanese case-marking particles, this would be tantamount to intransitive subjects receiving the same case particle *o* as transitive objects, as in the imaginary example (5b).<sup>2</sup>

- (5) a. *Kokku ga tamago o wat-ta.* (< *war-ta*)  
       cook ERG egg ABS crack-PST  
       ‘The cook cracked the egg.’
- b. *Tamago o war-e-ta*  
       egg ABS crack-INTR-PST  
       ‘The egg cracked.’

Japanese in fact marks intransitive subjects in the same way as transitive agents, adopting the so-called nominative-accusative case marking strategy. These two case marking strategies can be seen as differing ways of economizing with two case particles to mark three syntactic functions, both strategies making it possible for all intransitive subjects to consistently receive the same case marking. Not all intransitive subjects are in fact alike, however, as some intransitive subjects encode agents, rather than themes, as in (6).

- (6) a. *Odoriko ga odot-ta.*  
       dance-girl NOM dance-PST  
       ‘The dancer danced.’
- b. *Uma ga hasit-ta.*  
       horse NOM run-PST  
       ‘The horse ran.’

Interestingly, these kinds of intransitives do not typically have transitive partners, suggesting a third possible case marking strategy where intransitive subjects like

<sup>2</sup> A reviewer points out that in many ergative languages absolutive case, being the unmarked case, is in fact indicated by zero marking, and is sometimes therefore referred to as “(zero) nominative case.”

those in (6) are *differently* case-marked from intransitive subjects like (1b), the former receiving the same case marking as transitive agents and the latter receiving the same case marking as transitive objects. This is the case marking strategy adopted in certain so-called “split-S” or “active” languages (Woolford 2015). Languages such as Japanese, by contrast, economize in their case marking systems by assigning the same case marker to all intransitive subjects no matter what the type, adopting a consistently nominative-accusative case marking strategy. As with many other nominative-accusative languages, there are subareas of Japanese grammar that exhibit ergative tendencies, where transitive objects and intransitive subjects behave in a similar way, such as resultative constructions (Tsujimura 1994) and constructions built on the *-kake* form (Kishimoto 1996). Insofar as case marking is concerned, however, every predicate in Japanese must minimally have at least one noun argument that is marked by nominative *ga*.

Verb pairs exhibiting the transitive-intransitive alternations in (4) number close to 500 in Japanese and fall into three broad categories according to whether the transitive member can be seen to be derived from the intransitive member, normally by exhibiting an affix that is absent from the intransitive member (e.g. *ak-e-ru* ‘open (tr.)’ vs. *ak-u* ‘open (intr.)’), or the intransitive member from the transitive member (e.g. *war-u* ‘crack (tr.)’ vs. *war-e-ru* ‘crack (intr.)’), or neither, with both the transitive and intransitive member exhibiting an affix not appearing on its partner (e.g. *nao-s-u* ‘fix’ vs. *nao-r-u* ‘be fixed’). These morphological alternations are treated in detail in a separate companion volume to the current series (*Transitivity and valency alternations: studies in Japanese and beyond*, ed. Taro Kageyama and Wesley M. Jacobsen, 2016, Mouton de Gruyter), to which interested readers are referred. A list of transitive-intransitive alternating pairs appears in the appendix to that volume that totals 474 verb pairs, divided into 305 core pairs exhibiting in main the properties in (4) and 169 additional pairs that depart in some respect from these properties, such as in their meaning, syntactic behavior, or frequency of usage. Suffice it to note here that the syntactic criterion for transitivity – co-occurrence with a noun argument marked with accusative *o* – and the morphological criterion for transitivity – participation in an affix pattern that identifies a predicate as the transitive member of one of the alternating verb pairs listed above, while overlapping in the “core” cases, do not in all cases pick out as transitive the same group of predicates. There are, in particular, predicates that co-occur with *o*-marked noun arguments that have no intransitive morphological partner with which they enter into an affixal opposition like that described above (e.g. *tabe-ru* ‘eat,’ *nagur-u* ‘hit,’ *yob-u* ‘invite,’ etc.) and verb pairs that exhibit the affix markings of typical transitive-intransitive verb pairs where both members of the pair co-occur with *o*-marked arguments (e.g. *azuk-e-ru* ‘entrust (to the care of another)’ vs. *azuk-ar-u* ‘keep (in one’s own care),’ to be taken up in Section 3). Mismatches such as this point to independent, if largely overlapping, criteria that underlie syntactic and morphological transitivity in Japanese. We begin in the next section with examining the notion of transitivity

that underlies the morphological dimension, one that has played a central role in the historical evolution of a grammatical concept of transitivity in the native Japanese tradition.

### 3 Morphology and transitivity in the native Japanese grammatical tradition

The kernels of a conception of transitivity can be traced back to the 18th century in the native Japanese grammatical tradition of *Kokugogaku* ('native language study'), originating in some early anonymous treatises and developed in the work of scholars such as Fujitani Nariakira, Moto'ori Norinaga, and, most notably, Moto'ori Haruniwa. This conception of transitivity centered on a distinction between *ji* 'self' and *ta* 'other,' understood roughly as the individual self in opposition to the world surrounding the individual, a distinction that is inherited to this day in the Japanese terms for intransitive verb and transitive verb (*jidōshi* 'self-movement-word' vs. *tadōshi* 'other-movement-word'). Beginning with the work of Haruniwa, this distinction began to receive a more specifically grammatical treatment, as reflected in the detailed analysis of morphological forms found in his *Kotoba no kayoiji* (1828) and its six-way classification of verb forms into categories corresponding roughly to intransitive, transitive, ditransitive, causative, spontaneous, and passive. This concern with morphology has been dominant through the history of the *Kokugogaku* tradition, virtually to the exclusion of attention to other dimensions of transitivity, so that even in relatively modern work in this tradition such as Shimada (1979), the idea of transitivity as defined by the presence of a direct object is viewed as a foreign notion borrowed from western grammar. With the advent of generative grammar in the 1960s, however, analyses of transitivity in Japanese appeared that depart from this tendency to view transitive morphological oppositions as a self-contained system, instead treating them as surface forms triggered by syntactic features such as presence or lack of accusative case marking or number of arguments, as seen in works such as Okutsu (1967) and Inoue (1976). More recent descriptive studies in this native Japanese tradition are found in collections of papers such as Nitta (ed., 1991) and Suga and Hayatsu (eds., 1995).

This focus on morphology contrasts sharply with treatments of transitivity in western traditions of modern linguistics, where there has been a marked lack of attention to morphological dimensions of transitivity. This is perhaps a natural consequence of the absence of any significant morphological dimension to transitive vs. intransitive alternations in English, as seen in the use of verbs such as *crack* illustrated earlier in (1) and *open* and *burn* in the English glosses of the sentence pairs in (7).

- (7) a. *Ken ga mado o ak-e-ta.* ↔ *Mado ga ai-ta.* (<*ak-ta*)  
 Ken NOM window ACC open-TR-PST window NOM open-PST  
 'Ken opened the window.' 'The window opened.'
- b. *Kaizoku ga ie o yai-ta.* (<*yak-ta*) ↔ *Ie ga yak-e-ta*  
 pirate NOM house ACC burn-PST house NOM burn-INTR-PST  
 'The pirates burned (down) the house.' 'The house burned (down).'

The Japanese examples in (7), on the other hand, exhibit both a morphological opposition (*ak-e-ru* 'open<sub>tr</sub>' vs. *ak-u* 'open<sub>in</sub>', *yak-u* 'burn<sub>tr</sub>' vs. *yak-e-ru* 'burn<sub>in</sub>') and a syntactic opposition (presence or lack of an *o*-marked accusative argument). As in (1), these two formal characteristics coincide, so that only the morphologically transitive verb occurs with an *o*-marked argument, typical of the behavior of standard transitive-intransitive pairs described in (4). As noted earlier, though, there are a significant number of verb pairs in Japanese where the morphological opposition does not coincide with a syntactic opposition. One such class of verbs is seen in the examples in (8) and (9).

- (8) a. *Kyaku ga tokeiya ni tokei o azuk-e-ta.*  
 customer NOM clock-shop DAT watch ACC leave-PST  
 'The customer left his watch with the watch repairman.'
- b. *Tokeiya ga kyaku no/kara tokei o azuk-at-ta.* (<*azuk-ar-ta*).  
 Clock-shop NOM customer GEN/ABL watch ACC keep-PST  
 'The watch repairman kept the customer's watch (took the watch under his care from the customer)'
- (9) a. *Hahaoya ga kodomo ni huku o ki-se-ta.*  
 mother NOM child DAT clothes ACC put.on-PST  
 'The mother dressed (lit., put clothes on) the child.'
- b. *Kodomo ga huku o ki-ta.*  
 child NOM clothes ACC put.on-PST  
 'The child put on his clothes.'

Other morphological pairs that exhibit the syntactic pattern in (8) and (9) include *sazuk-e-ru* 'grant' vs. *sazuk-ar-u* 'receive, be granted,' *kabu-se-ru* 'put (on the head of another)' vs. *kabu-r-u* 'put (on one's own head),' *hukum-e-ru* 'include (in something else)' vs. *hukum-u* 'contain (in oneself),' *ka-s-u* 'lend' vs. *ka-ri-ru* 'borrow,' and *osi-e-ru* 'teach' vs. *osow-ar-u* 'learn.' The right-hand member of each of these pairs, appearing in the (b) examples in (8) and (9), can be identified as morphologically intransitive, as it exhibits in each case a morphological opposition exactly analogous to that of the intransitive member of standard transitive-intransitive pairs

(e.g., *azuk-ar-u* in (8b) analogous to the intransitive member of pairs such as *ag-e-ru* ‘raise’ vs. *ag-ar-u* ‘rise’ and *ki-ru* in (9b) to the intransitive member of pairs such as *ni-se-ru* ‘imitate’ vs. *ni-ru* ‘be similar to, resemble’), and yet in all cases occurs with an accusatively-marked direct object argument. In fact, *both* the morphologically transitive and intransitive members of these pairs take the same direct object argument (*tokei* ‘watch’ in (8), *huku* ‘clothes’ in (9)), in contrast to the case marking pattern of standard transitive-intransitive verb pairs seen in (4b). The case marking pattern here also differs from (4b) in that the *ga*-marked nominative subject of the intransitive clause corresponds not to the *o*-marked accusative argument of the transitive clause, but rather to its *ni*-marked dative argument.

This case marking relationship can be schematized as in (10), with the morphologically transitive pattern on the left and the morphologically intransitive pattern on the right:

$$(10) \text{ NP1 } ga \text{ NP2 } ni \text{ NP3 } o \text{ V}_{tr} \leftrightarrow \text{NP2 } ga \text{ NP3 } o \text{ V}_{in}$$

Although both sentence patterns in (10) would appear to be transitive, at least in the syntactic sense, there are nevertheless several important respects in which the sentence pattern exhibits intransitive characteristics, apart from the morphology alone of its predicate. There is, first of all, a reduction in the number of its arguments as compared to the morphologically transitive clause, due to the absence in the intransitive clause of the subject argument NP1 of the transitive clause, thus preserving feature (4a) of standard transitive-intransitive verb pairs.<sup>3</sup>

At the level of meaning, in addition, the meaning feature (4c) can be seen to be present in the syntactic pattern in (10): the transitive clause expresses an intentional action that has as its result the situation expressed by the intransitive clause. In (8), for example, as a result of the customer in (8a) leaving the watch with the repairman, the repairman in (8b) keeps the watch, and in (9), as a result of the mother in (9a) putting the clothes on the child, the child in (9b) has the clothes on, and so forth. There is, furthermore, a difference in the relationship that obtains between the subject and direct object in the two patterns in (10) that may be seen to reflect a difference in transitivity. In the intransitive pattern, the *o*-marked object entity (NP3 = *tokei* ‘watch’ in (8)) enters into the possession of the *ga*-marked subject entity (NP2 =

<sup>3</sup> Note that in the case of verb pairs such as *azukeru/azukaru* in (8), the subject NP1 *ga* of the morphologically transitive clause may appear in the morphologically intransitive clause with ablative marking NP1 *kara* ‘from NP1.’ The fact that this is not an obligatory argument of the ‘intransitive’ clause, however, is evident from the possibility of NP1 alternatively appearing as a non-argument modifier of NP3 in the genitive collocation NP1 *no* NP3 *o* ‘NP1’s NP3’ with no sense of ellipsis. For a discussion of how to determine argumenthood in Japanese, see the chapter on argument structure in the forthcoming volume in the HJLL series *Handbook of Japanese semantics and pragmatics* (ed. by Wesley M. Jacobsen and Yukinori Takubo).



*tokeiya* ‘watch repairman’ in (8)), whereas in the morphologically transitive pattern, the *o*-marked object entity (again, NP3 = *tokei* ‘watch’ in (8)) comes into the possession, not of the subject entity (NP1 = *kyaku* ‘customer’ in (8), but rather an entity distinct from the subject, the datively *ni*-marked entity (NP2 = *tokeiya* ‘watch repairman’ in (8)). In the morphologically intransitive clause, that is, the object entity becomes incorporated into the subject entity, as opposed to the morphologically transitive clause, where the object entity becomes incorporated into something else.

If the grammatical subject is identified with the “self”, this distinction between incorporation of the object into the subject “self” versus incorporation into a non-subject “other” correlates closely with the traditional historical Japanese understanding of transitivity as a difference between self-oriented (*zi*) and other-oriented (*ta*) meaning, an understanding that may therefore be seen as a natural outgrowth of the focus on morphology in this tradition. This meaning may be seen to subsume the meaning of standard transitive-intransitive morphological pairs illustrated earlier in (1) and (7) in that only the transitive form in such cases bears reference to an object “other” distinct from the subject, one that is absent in the intransitive case, but extends more broadly to cases where both transitive and intransitive morphological forms take an object, distinguished by whether it becomes incorporated or not into the subject “self.” This points to a view of transitivity that has been put forth in more recent research as encoding a variously higher or lower level of *differentiation* between two entities (Næss 2007), one that holds the promise of making possible a unified treatment of the various dimensions of transitivity that are observed in Japanese.

One further type of mismatch between syntactic and morphological transitivity is seen in cases where the morphologically intransitive form takes an accusatively-marked locative object representing either the path or source of a motion expressed by the verb. The accusative object of the intransitive member (11b) of the pair in (11) illustrates the case of path of motion, and the accusative object of the intransitive member (12b) of the pair in (12) illustrates the case of source of motion.

- (11) a. *Sagyooin ga kuda ni mizu o too-si-ta.* < *too-s-ta*  
 worker NOM pipe DAT water ACC let.pass-PST  
 ‘The worker passed water through the pipe.’

- b. *Mizu ga kuda o too-t-ta.* < *too-r-ta*  
 water NOM pipe ACC pass.through-PST  
 ‘Water passed through the pipe.’

- (12) a. *Takusii untensyu ga eki no mae de kyaku o*  
 taxi driver NOM station GEN front LOC passenger ACC  
*(takusii kara) or-osi-ta.* < *or-os-ta*  
 taxi ABL let.off-PST

The taxi driver let the passenger off (from the taxi) in front of the station.

- b. *Kyaku ga eki no mae de takusii o or-i-ta*  
 passenger NOM station GEN front LOC taxi ACC get.off-PST  
 'The passenger got off the taxi in front of the station.'

Further examples of pairs with an intransitive member taking a path object include *nuku* 'pull out' vs. *nukeru* 'pass through,' *watasu* 'hand over/let across' vs. *wataru* 'go across,' and *kaeru* 'change' vs. *kawaru* 'exchange (places) with'; further examples of intransitive members taking source objects include the intransitive member of the pairs *dasu* 'take out' vs. *deru* 'leave/come out from,' *sugosu* 'let pass/spend' vs. *sugiru* 'pass by,' and *hanasu* 'release' vs. *hanareru* 'move away from.'

These verb pairs, like those following the pattern in (10), exhibit accusative case marking in both morphologically transitive and intransitive clauses, but maintain an important affinity with the standard pattern in (4b) that is lacking in (10): the accusative object of the morphologically transitive form is identified with the nominative subject of the morphologically intransitive form (e.g., *mizu* in (11a,b) and *kyaku* in (12a,b)). As a consequence, the accusatively marked object represents a different entity in the transitive and intransitive case, unlike (10). The case pattern of noun arguments with these pairs can be schematized as in (13):

- (13) a. Path object case: NP1 *ga* NP2 *o* NP3 *ni*  $V_{tr} \leftrightarrow$  NP2 *ga* NP3 *o*  $V_{in}$   
 b. Source object case: NP1 *ga* NP2 *o* NP3 *kara*  $V_{tr} \leftrightarrow$  NP2 *ga* NP3 *o*  $V_{in}$ <sup>4</sup>

(13) also exhibits a reduction in the number of arguments between the morphologically transitive and morphologically intransitive case, preserving another feature of standard transitive/intransitive pairs.

From the standpoint of meaning, finally, these pairs provide another example of a distinction between self-oriented (*zi*) and other-oriented (*ta*) meaning, as seen in the differing relationship that obtains between the accusative object and nominative subject in each case. Specifically, the transitive object here encodes an entity distinct from the subject that undergoes a change in state (namely, a change in position or location), while the object in the intransitive case, though representing a locative entity distinct from the subject, does not undergo such a change – it is the subject itself that undergoes such a change in the intransitive case. So the effect of the action expressed by the transitive verb extends to an entity distinct from the subject

<sup>4</sup> The question arises of whether locative objects are in fact arguments of their intransitive predicates, an answer to which requires developing an objective test for argumenthood. According to the test proposed in the chapter on argument structure in the *Handbook of Japanese semantics and pragmatics* (see Footnote 1), locative objects are arguments in some cases, including most cases of intransitives having transitive partners, such as *tooru* 'go through/along,' *oriru* 'get off,' and *deru* 'go out from/leave,' but not in the case of verbs having no transitive partner, such as *aruku* 'walk,' *kuru* 'come,' and *iku* 'go.'

entity, whereas the action of the intransitive verb reverts to the subject itself, in a reflexive-like self-oriented action.<sup>5</sup>

Much as morphological patterns of transitivity in Japanese may diverge from syntactic intransitivity, then, with many morphologically “intransitive” forms allowing accusative marking, we have seen that these patterns nevertheless encode dimensions of transitivity that overlap with, but are not entirely coterminous with, syntactic transitivity, such as varying levels of differentiation between the subject and object entity and inward versus outward directedness of the event expressed relative to the subject entity. The question remains at a deeper level of how certain predicates are associated with two arguments rather than one to begin with and what licenses certain second arguments to receive the privileged status of accusative marking – what kind of transitivity it is, in other words, that is encoded by the syntactic dimension of transitivity in Japanese, a question we turn to in the next section.

## 4 Bivalency and syntactic transitivity

As noted at the outset of this chapter, a transitive predicate, understood in the broad sense, is one that is bivalent – i.e., requires at least two noun arguments for the meaning of the sentence containing it to be coherent. But second arguments of bivalent predicates in Japanese can receive marking other than accusative marking. One class of such bivalent predicates are those whose second arguments take comitative case marking, such as the verb *tigau* ‘be different (from)’ and the copular adjective *onazi da* ‘be the same (as),’ illustrated earlier in (2). Further examples of predicates taking, or at least allowing, comitative marking include *butukaru* ‘collide (with),’ *syoototu-suru* ‘collide (with),’ *kekkon-suru* ‘get married (with),’ *wakareru* ‘separate, break up with,’ *au* ‘meet (with),’ and *ni(te-i)ru* ‘resemble, look like.’

These predicates have in common the semantic property of expressing properties or events that are symmetric, in the sense that what is predicated of the first argument with respect to the second entails that the same thing can be predicated of the second with respect to the first: ‘A is different from B’ entails ‘B is different from A,’ ‘A looks like B’ entails ‘B looks like A,’ etc. The possibility of the same predication being made of either argument is reflected in the possibility of the two entities being coordinated into a single subject, as in (14a) and even into a single compound word representing two entities as in (14b).

- (14) a. *Boku no iken to kare no iken wa tiga-u.*  
 I GEN opinion and he GEN opinion TOP differ-NPST  
 ‘My opinion and his opinion are different.’

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<sup>5</sup> Reflexive constructions occupy an intermediary position between transitive and intransitive meaning, behaving in certain respects like the former and in other respects like the latter, and represent a special case of what has been called middle voice (Kemmer, 1993).

- b. *Ano oyako wa yoku nite-iru.*  
 that mother.child TOP well resemble-STAT-NPST  
 ‘That mother and child strongly resemble (each other).’

No matter how the two entities are configured, a relationship between two entities is inherent to the meaning of these predicates, so that their bivalent character may be seen to have a logical basis in this relational meaning.

Relational meaning, however, comprises a wider range of meaning than symmetrical meaning, including non-symmetrical properties and events inherently involving reference to two entities. Such non-symmetrical relational meaning characterizes a second class of bivalent predicates with second arguments marked with dative *ni*, represented by verbs such as *ataru* ‘hit/strike (against),’ *sawaru* ‘touch,’ *tayoru* ‘rely on,’ and *koi-suru* ‘fall in love with,’ where the event or property has a one-way directionality extending from one entity toward the other but not vice versa. Examples of such predicates taking second arguments with dative *ni* are given in (15).

- (15) a. *Kaze ga tuyoku madogarasu ni atat-ta.*  
 wind NOM strongly window.glass DAT hit-PST  
 ‘The wind hit against the window with great force.’  
 b. *Ano kyoozyu wa yuunoo-na zyoosu ni tayot(te-i)ru.*  
 that professor TOP capable assistant DAT rely-STAT  
 ‘That professor relies on his able assistant.’

Many predicates that otherwise express a symmetric relationship with comitative second arguments have alternative uses with dative marking, when one of the two entities is seen as dominant in the sense of bearing responsibility for initiating the relationship, as in (16a), or one entity is seen as the standard against which the property holding between the two arguments is conceptualized, as in (16b).

- (16) a. (*Unten ni ki o tukero.*) *Mae no kuruma*  
 driving DAT attention ACC attach-IMP front GEN car  
*ni butukaru yo.*  
 DAT collide SP  
 ‘(Watch your driving.) You’ll run into the car in front of you.’  
 b. *Ano ko wa hahaoya ni yoku nite-iru.*<sup>6</sup>  
 that child TOP mother DAT well resemble-STAT-NPST  
 ‘That child strongly resembles its mother.’

<sup>6</sup> The topic marker *wa* is a variety of ‘focus’ particle, not a case particle, and does not specify the case relationship a noun bears to its predicate. In each of the examples in (16), *wa* conceals an underlying nominative *ga* that encodes the case relationship in question. This can be seen from observing the case marker that emerges when the noun is placed in contexts where topical *wa* marking is not licensed in Japanese, such as when the noun represents questioned information or when its clause occurs in subordinate contexts. The case particle that emerges in such contexts for each example in (16) is nominative *ga*. E.g., *Ano ko ga hahaoya ni yoku niteiru no wa toozen no koto da.* ‘It is natural that that child strongly resembles its mother.’

Apart from the presence or absence of symmetry, all predicates obligatorily taking comitative or dative second arguments inherently express a relational meaning that requires reference to two entities, and their bivalency may therefore be seen to have a logical basis in such relational meaning.<sup>7</sup>

Turning now to the case of paradigmatic transitive predicates, with second arguments receiving accusative *o* marking, it is clear by contrast with two-place predicates taking dative or comitative second arguments that paradigmatic transitive predicates are inherently *asymmetric* in their meaning. This can be illustrated, however trivially, with the transitive clause on the left in (7), repeated here, where the relationship is conceived of as a one-way action directed from Ken to the window, and there is no sense in which the role played by Ken vis-à-vis the window is shared by the window vis-à-vis Ken.

- (7) a. *Ken ga mado o ak-e-ta.*       $\leftrightarrow$  *Mado ga ai-ta.* (<*ak-ta*)  
       Ken NOM window ACC open-TR-PST      window NOM open-PST  
       ‘Ken opened the window.’                      ‘The window opened.’

Negatively defining accusative transitive constructions as asymmetric in this way does not, however, explain why their predicates must be bivalent. The question still remains as to whether such predicates inherently encode a component of meaning that is relational, thereby requiring reference to two distinct obligatory entities in their argument structure.

Ironically, the presence of the large number of morphological transitive-intransitive pairs like those considered in Section 3 (e.g., *waru-wareru* ‘crack,’ *akeru-aku* ‘open,’ *naosu-naoru* ‘fix-get fixed,’ etc.) might suggest that syntactically transitive predicates *cannot* in general be characterized as relational in meaning. Otherwise it would be difficult to explain why the meaning of each such pair may be expressed so naturally in either an intransitive (monovalent) or transitive (bivalent) fashion. The meaning shared by each member in such pairs appears to be a simple change of state that in itself is neutral to occurrence involving one entity (a theme undergoing the change in state) versus two entities (a theme undergoing the change in state and an agent bringing about that change). The critical question then is whether syntactic accusative constructions impose some element of meaning on their predicates in *addition* to this simple change of state that is inherently relational in meaning and uniquely distinguishes them from non-accusative intransitive constructions.

One place to search for such an element of meaning is in the “prototype” of transitive meaning proposed by Hopper and Thompson in their famous 1980 study

<sup>7</sup> Not all noun phrases marked by comitative *to* are arguments of their predicate. There are also cases of *to* marking an optional adjuncts that supplement the meaning of the sentence, but are not obligatory to its meaning, such as *Tomodati to kooen o aruita* ‘I walked through the park with a friend.’

of transitivity. According to Hopper and Thompson, transitivity is not a property that can be defined in dichotomous terms of transitive versus intransitive, but is rather a scalar property that clauses may possess in relatively higher or lower degrees to the extent that they express events that exhibit or do not exhibit a *set* of properties that can be summarized as in (17):

- (17) a. Two participants are involved.
- b. One participant is an agent that acts in an intentional manner.
- c. The other participant is a theme that undergoes a change.
- d. The event expressed culminates in an endpoint (it is “telic” and “bounded” in time)
- e. The event occurs in real time (as opposed to being merely possible, desired, or otherwise imagined).

A prototypical transitive event, from this perspective, is one like that expressed in the transitive clause of the pair in (7). This clause expresses an event exhibiting all the features in (17): there are two participants in the event, Ken and the window; Ken acts in an intentional manner to bring about a change in the window; the window undergoes a change from a state of being closed to being open; this event culminates in an endpoint defined by the window attaining the state of being open; and the event occurs in real time. The features in (17) can indeed be seen to group together in the meaning of many, perhaps most, syntactically transitive predicates, pointing to the centrality of the event type they collectively represent in human experience.

The features in (17) are not, however, logically bound together in an inextricable way. For example, meaning feature (a) – the involvement of two participants – does not always co-occur with meaning feature (c) – the undergoing of a change of state in one of these participants, as illustrated in dative constructions such as (18), where two participants are involved but no change of state occurs in the second participant.

- (18) *Ken ga Mari ni paatii de at-ta.*  
 Ken NOM Mari DAT party LOC meet-PST  
 ‘Ken met Mari at a party.’

Similarly, the involvement of two participants in an event does not necessarily have to be seen as occurring in real time, as seen in possible or desired contexts such as (19).

- (19) a. *Ken ga niku ga tabe-rare-nai (koto)*  
 Ken NOM meat NOM eat-POT-NEG (fact)  
 ‘(The fact that) Ken cannot eat meat’

- b. *Ken ga niku ga tabe-tai (koto)*<sup>8</sup>  
 Ken NOM meat NOM eat-DESI (fact)  
 ‘(The fact that) Ken wants to eat meat’

Significantly, the second argument in these cases is marked with a case particle other than accusative *o*: the dative case particle *ni* in (18) and the nominative case particle *ga* in (19). The question is whether *accusative* constructions require the presence of all the meaning features in (17), and if not, whether there is any one feature predominant over the others in such constructions that can be seen to be inherently relational in meaning and requires bivalent expression.

As we survey the range of meanings expressed in accusative constructions, it becomes quickly clear that the answer to the first part of this question is negative: as I have pointed out in earlier work (Jacobsen 1992), numerous examples exist of accusative constructions that depart from the Hopper and Thompson prototype in (17). Three types of such non-prototypical constructions are illustrated in (20): verbs of perception (20a), verbs of emotion (20b), and verbs of expectation (20c). In each of these cases, the *o*-marked second participant undergoes no change of state and thus lacks property (17c), a central feature of the transitive prototype. In the case of the examples in (20c) the second participant need not even be an actually existing entity.

- (20) a. *Terebi no gamen o mi-ru; ongaku o ki-ku; hon o yom-u*  
 TV GEN screen ACC look.at; music ACC listen.to; book ACC read  
 ‘Look at/watch the TV screen’; ‘Listen to music’; ‘Read a book’
- b. *Teki o nikum-u; sake o konom-u; kokyoo o sita-u*  
 enemy ACC hate; wine ACC like; home.town ACC long.for  
 ‘Hate one’s enemy’; ‘Like/prefer wine’; ‘Long for one’s home town’
- c. *Tomodati o mat-u; syoku o sagas-u; ii kekka o nozom-u*  
 friend ACC wait.for; work ACC search.for; good result ACC hope.for  
 ‘Wait for one’s friend’; ‘Search for work’; ‘Hope for a good result’

While the examples in (20) may lack one feature of the prototype, however, they consistently preserve another central feature of the prototype, and that is intentionality in the subject. All predicates in (16) are capable of entering into one or more verbal constructions that require a subject having volition, indicative of the presence of intentional meaning, such as the imperative, potential, and conative (‘try to’) constructions, illustrated in (21a–c) for *syoku o sagasu* ‘search for work.’

<sup>8</sup> The use of *koto* ‘fact’ to subordinate the constructions here is intended to suppress the tendency for the first argument to be marked with topic *wa*, which would otherwise be more natural in main clause contexts with stative predicates such as these (see Footnote 6).

- (21) *Syoku o sagas-e.*      *Syoku ga sagas-e-nai.*      *Syoku o sagas-oo-to-suru*  
 work ACC search-IMP    work NOM search-POT-NEG    work ACC search-VOL-do  
 ‘Search for work!’      ‘I can’t search for work.’      ‘I try to search for work.’

Particularly interesting in this regard are the verbs of perception in (20a), several of which form pairs with intransitive counterparts, exhibiting not only the same kind of morphological alternations that characterize standard transitive-intransitive pairs, but also the case marking alternation that characterizes such pairs seen earlier in (4b), with the transitive object corresponding to the intransitive subject. These pairs also preserve the meaning relationship in (4c): in each case the intransitive clause expresses the result of the intentional action expressed in the transitive clause, as illustrated in (22).

- (22) a. *Terebi no gamen o mi-ru* ↔ *Terebi no gamen ga mi-eru*  
 TV GEN screen ACC look.at    TV GEN screen NOM be.visible  
 ‘Look at the TV screen’      ↔ ‘The TV screen is visible/can be seen.’  
 b. *Ongaku o kiku* ↔ *Ongaku ga kikoe-ru*  
 music ACC listen.to    music NOM be.audible  
 ‘Listen to music’      ↔ ‘Music is audible/can be heard.’

Another class of accusative-marked constructions lacking the prototypical feature (17c) of theme undergoing a change in state are the locative object constructions considered earlier in Section 3, such as in (23).

- (23) *Miti o aruku; tonneru o tooru; umi o wataru*  
 road ACC walk; tunnel ACC go.through; sea ACC cross  
 ‘Walk along the road’; ‘Go through a tunnel’; ‘Cross the ocean’

Although these examples differ from the examples in (20) in that the second participant is not always an argument of the predicate (e.g., *miti* ‘road’ is not an obligatory argument of *aruku* ‘walk,’ though *tonneru* ‘tunnel’ and *umi* ‘sea’ are respectively arguments of *tooru* ‘go through’ and *wataru* ‘cross’), these constructions, like those in (20), are again intentional in character, as can once again be shown in the possibility of these verb forms taking imperative, potential, conative, etc., forms, as illustrated for *umi o wataru* ‘cross the ocean’ in (24).<sup>9</sup>

<sup>9</sup> A reviewer points out that there are locative object constructions with inanimate subjects, such as *Taru ga saka o koroge-otite itta* ‘The barrel rolled down the slope’ or *Soyokaze ga umi o watatte huite kuru* ‘A gentle breeze blows across the ocean.’ While the subject entities here do not exhibit intentionality in the strict sense, they exhibit a closely related element of agency in that they are conceived of as moving under their own power.



- (24) *Umi o watar-e. Umi ga watar-e-nai. Umi o watar-oo-to-suru*  
 ocean ACC cross-IMP ocean NOM cross-POT-NEG ocean ACC cross-VOL-do  
 ‘Cross the ocean!’ ‘I can’t cross the ocean.’ ‘I try to cross the ocean.’

Judging from the examples so far, it appears that the feature in (14b) – the presence of intentional meaning – is a necessary condition on the occurrence of accusative *o*. Though far less common, however, apparent counterexamples can be found here as well.

- (25) a. *Sumaho o dokoka e nakusi(te-simat)ta.*  
 smart.phone ACC somewhere LOC lose-PST  
 ‘I lost my smart phone somewhere.’
- b. *Kookoo zidai ni oboeta eigo o sukkari*  
 high.school years TMP learn-PST English ACC completely  
*wasure(te-simat)ta.*  
 forget-PST  
 ‘I completely forgot the English I learned in high school.’
- c. *19sai no toki baiku no ziko de asi no*  
 19 GEN time motorbike GEN accident CAUS leg GEN  
*hone o ot(te-simat)ta.*  
 bone ACC break-PST  
 ‘I broke my leg(bone) in a motorbicycle accident when I was 19 years old.’

The actions expressed in (25) clearly do not involve conscious intention. As many have observed, however, these events can be seen to arise under the control of the subject entity in the sense that it has the ability, with sufficient exercise of the will, to prevent the actions from taking place. Under the nonintentional readings, furthermore, the presence of the *te-sima(w)u* auxiliary is strongly preferred, and absent such a marking these predicates co-occur freely in the usual constructions indicating intentional meaning, such as imperative (especially negative imperative), potential, and conative.

A second class of accusative constructions where intentional meaning is absent in a more salient way are ones expressing asymmetrical spatial relationships where the subject entity is dominant over the object entity in some sense, as in verbs expressing relationships of containment or surrounding in (26).

- (26) a. *Kono ganseki ga kin o hukunde-iru.*  
 this rock NOM gold ACC contain-RES  
 ‘This rock contains gold.’

- b. *Hori ga siro o kakonde-iru*  
 moat NOM castle ACC surround-RES  
 'A moat surrounds the castle.'

With predicates expressing a whole-part relationship such as (26), it would intuitively appear that the dominant role should be associated to the whole rather than the parts, but that is not always necessarily the case. In a relationship such as that between a set and its members the role of dominance may be conceived of in two ways, as the whole is alternately seen to spatially dominate the parts or the parts are seen to make up, and therefore have priority over, the whole, reflected in the two distinct accusative constructions in (27):

- (27) a. *Kono syuugoo ga itutu no yooso o hukunde-iru.*  
 this set NOM five GEN member ACC contain-RES  
 'This set contains five members.'
- b. *Itutu no yooso ga kono syuugoo o nasite-iru.*  
 five GEN member NOM this set ACC form-RES  
 'Five members form (lit. bring about) this set.'

Significantly, though, these non-intentional constructions typically occur with the resultative stative affix *te-iru*. Absent that affix, each of these accusative constructions has a basically intentional character, as can again be seen in the ease with which they occur in imperative, potential, and conative constructions.

- (28) a. *Kuti ni tabemono o ippai hukun-de (hanasa-nai-de kure)*  
 mouth DAT food ACC full contain-GER (talk-NEG give-IMP)  
 'Don't hold food full in your mouth and talk (Don't talk with your mouth full.).'
- b. *Teeburu o kakon-de (tatte-kudasai).*  
 table ACC surround-GER stand-please  
 'Please stand surrounding the table.'
- c. *Taigyoo o nasoo to sitemo, sono nooryoku*  
 great.work ACC bring.about-VOL QUOT do-even, that-GEN ability  
*ga nai.*  
 NOM have-NEG  
 'Even though I try to accomplish (lit. bring about) something major, I don't have the ability to do so.'

The feature of the transitive prototype that persists most strongly in all the syntactically accusative constructions considered thus far, in either a basic or derivative way,

is therefore intentional meaning. Accusative constructions that lack literal intentionality must at least encode a relationship of asymmetric dominance or control of the subject entity over the accusative entity that is rooted in the elements of dominance and control wielded by the agent over the theme in the Hopper-Thompson prototype described in (17).

This correlation between intentionality and accusative marking can be observed across a wide range of phenomena in Japanese. One surprising confirmation of this comes from the unlikely source of certain *intransitive* constructions. As noted earlier, intransitives that enter into standard transitive-intransitive verb pairs such as (1) and (7) express the result of the intentional action expressed in the transitive verb, a pattern observed also in verbs of perception such as (22). The result expressed by the intransitive in such cases lacks any intentional character. But intransitive verbs that are intentional, or at least have intentional uses, exist in large numbers as well, both among intransitive verbs that have transitive partners and intransitive verbs lacking transitive partners.<sup>10</sup> Among intentional verbs having transitive partners are numerous verbs of motion such as *deru* ‘go out, leave,’ *oriru* ‘come down/get off,’ *hairu* ‘go in, enter,’ *wataru* ‘cross,’ and *tooru* ‘go through’ (respectively having transitive partners *dasu* ‘take out,’ *orosu* ‘take down/let off,’ *ireru* ‘let/put in,’ *watasu* ‘let/send across,’ and *toosu* ‘let/make pass through.’) All these intransitives allow locative accusative objects, variously expressing path or source of the motion in question, of the sort illustrated earlier in (18) (e.g., *kuni o deru* ‘leave the country,’ *basu o oriru* ‘get off the bus,’ *mon o hairu* ‘enter the gate,’ etc.). The existence of such accusative constructions might call into question the intransitive status of these verbs, but their intransitive status is secure, first, on the basis of the morphological pairing they participate in and, secondly, on the basis of the fact that each is capable of expressing a non-intentional result of the sort described in (4c), illustrated in the examples in (29).

- (29) a. *Gamen ni eizoo ga de-ta.*

Screen DAT image NOM come.out-PST

‘An image came out (appeared) on the screen.’

- b. *Kuni ni kaeru kyoka ga ori-ta.*

Country DAT return permission NOM come.down-PST

‘Permission was granted (lit., came down) to return to his home country.’

- c. *Booru ga gooru ni hait-ta.*

Ball NOM goal DAT go.in-PST

‘The ball went into the goal.’

<sup>10</sup> The distinction drawn here between intentional versus non-intentional intransitives corresponds in essential respects to the distinction commonly referred to in the literature as unergative versus unaccusative intransitives, terms due originally to Perlmutter (1978).

The presence of a locative accusative object, by contrast, gives rise to an intentional interpretation where the subject is seen as an agent that moves over the indicated locative space under its own power.

Intentional intransitive verbs that lack transitive partners, on the other hand, are seen in the large number of activity verbs such as *hataraku* ‘work,’ *odoru* ‘dance,’ *asobu* ‘play,’ *oyogu* ‘swim,’ *hasiru* ‘run,’ *aruku* ‘walk,’ and *tobu* ‘fly.’ Some of these are motion verbs that again allow the locative accusative construction, as in *kawa o oyogu* ‘swim (across) the river,’ *rooka o hasiru* ‘run down the hall,’ *kooen o aruku* ‘walk through the park,’ and *sora o tobu* ‘fly through the sky.’ Yet another type of accusative construction that arises with many of these verbs is that illustrated in (30), where the accusative noun phrase encodes a specific subtype of the general category of activity forming the lexical meaning of the verb.

- (30) *hiraoyogi o oyogu, bon’odori o odoru,*  
       breast.stroke ACC swim, bon’odori ACC dance,  
       ‘swim the breaststroke,’ ‘dance the *bon’odori*,’  
*husei o hataraku, marason o hasiru*  
       injustice ACC work, marathon ACC run  
       ‘work (do) an injustice,’ ‘run a marathon’

The question arises here again as to whether these predicates are truly intransitive. The morphological criterion is absent as these verbs have no transitive partners, but their syntactic intransitive status is nevertheless evidenced by the fact that the accusative nouns are not obligatory here: the meaning of the clause containing each predicate is complete without any accusative argument. The fact that these intransitive activity verbs lack transitive partners in the first place may be accounted for by the fact that their meaning is inherently agent-oriented, in the sense that they make specific reference to bodily parts or motions that cannot be excluded from the meaning, making a non-intentional interpretation difficult to conceptualize. Given the general correspondence that exists in standard transitive-intransitive pairs between the intransitive subject and the transitive object (see (4b)), both lacking in intentional agency, this places a severe constraint on the existence of a transitive partner to these intentional intransitives, as the object argument of the transitive would have to lack intentional agency. Intentional intransitives, furthermore, themselves exhibit numerous affinities with standard transitive verbs, despite their syntactically intransitive status, as seen in their ability to enter without difficulty into imperative, potential, and conative constructions that are characteristic of transitive verbs. This hints at a fundamental link between intentionality and transitivity that seeks an explanation.

Another phenomenon pointing to a link between intentionality and accusative marking is to be found in the lexicon of Sino-Japanese intransitive verbs. Unlike native Japanese verbs, Sino-Japanese verbs exhibit no morphological distinction between transitive and intransitive, both uses realized by the combination of a verbal

noun and the “light verb” *suru* unmarked for any transitivity distinction. As illustrated in (31), the transitivity distinction in Sino-Japanese verbs thus must rely for its formal realization solely on the presence (in (31a)) or absence (in (31b)) of accusative *o*, a distinction that is in the final analysis determined by the meaning of the verb in question.

- (31) a. *Nitibei kankei o kenkyuu-suru. Hoomuppeezi o sakusei-suru.*  
 US-Japan relations ACC research-*suru*, home.page ACC create-*suru*  
 ‘Research US-Japan relations.’ ‘Create a webpage.’
- b. *Hanmei-suru. Syoometu-suru. Ryokoo-suru. Kinmu-suru.*  
 become.clear-*suru* cease.to.exist-*suru* travel-*suru* work-*suru*  
 ‘Become clear (come to light).’ ‘Be nervous.’ ‘Travel.’  
 ‘(Do one’s) work.’

In certain Sino-Japanese forms, an alternate form is possible where accusative *o* is inserted between the verbal noun and *suru*. For example, the transitive examples in (31a) have alternate versions in (31’a) where the original object appears as a modifier on the verbal noun, allowing *o* to be inserted before *suru* without violating the “double *o* constraint” (Harada 1973) that disallows more than one *o* to appear per clause.

- (31’) a. *Nitibei kankei no kenkyuu o suru*  
 US-Japan relations GEN research ACC *suru*,  
 ‘Do research on US-Japan relations.’
- Hoomuppeezi no sakusei o suru*  
 home.page GEN create ACC *suru*  
 ‘Do home-page (website) creation.’

In the intransitive examples in (31b), on the other hand, the first two examples are non-intentional and the last two intentional in meaning. As seen in (31’b), the insertion of *o* is permitted only with intransitives of intentional meaning.

- (31’) b. *hanmei (\*o) suru, syoometu (\*o) suru,*  
 become.clear ACC *suru*, cease.to.exist ACC *suru*,  
 ‘become clear (come to light),’ ‘cease to exist,’
- ryokoo o suru, kinmu o suru*  
 travel ACC *suru*, work ACC *suru*  
 ‘take a trip,’ ‘be at work’

Despite the existence, then, of a wide range of accusative constructions in Japanese that depart from the prototype in (17), particularly where the *o*-marked noun does

not encode a theme undergoing any change of state, such constructions exhibit a persistent correlation with the presence of intentional meaning (17b), either in a literal agentive sense, or in closely related senses that may be seen to derive from intentional meaning.

Does intentionality provide the link we are seeking between syntactic transitivity and bivalent meaning? In earlier work (Jacobsen 1992), I argued, based on the theory of intentionality proposed in Searle (1983), that intentionality is an inherently transitive notion. According to Searle's analysis, intentional action has two fundamental components, an intention in the inner mind of the intending agent to bring about a given state of affairs in the outside world and the occurrence of that event as a result of this intention. These two components are inherent to the meaning of prototypical transitive constructions in the Hopper-Thompson sense, as can be seen if we consider the transitive members of the examples in (7), repeated here.

- (7) a. *Ken ga mado o ak-e-ta.*       $\leftrightarrow$  *Mado ga ai-ta.* (<*ak-ta*)  
       Ken NOM window ACC open-TR-PST      window NOM open-PST  
       'Ken opened the window.'                      'The window opened.'
- b. *Kaizoku ga ie o yai-ta.* (<*yak-ta*)       $\leftrightarrow$  *Ie ga yak-e-ta*  
       pirate NOM house ACC burn-PST      house NOM burn-INTR-PST  
       'The pirates burned (down) the house.'      'The house burned (down).'

Borrowing a schema commonly adopted in the literature (Dowty 1979, Kageyama 1996), the transitive members of these constructions may be represented as having the general conceptual structure in (32a), where *x* represents the intending agent and *y* a real world entity in which some change is effected as a result. The examples in (7a) and (7b), for example, may be represented as having the conceptual structures (32b) and (32c).

- (32) a. [DO(*x*)] CAUSE [BECOME [STATE(*y*)]]  
       b. [DO(Ken)] CAUSE [BECOME [OPEN(window)]]  
       c. [DO(pirates)] CAUSE [BECOME [BURNT(house)]]

The [DO(*x*)] portion of this schema represents the event of *x* acting ("doing") intentionally and [BECOME [STATE(*y*)]] the event that is intended, that of a new state coming about in entity *y*, corresponding to the two components of Searle's analysis outlined above. *x* (a participant in the intending event) and *y* (a participant in the intended event) are ultimately realized as grammatical subject and object, respectively, so that the transitive character inherent in the duality between intending agent and intended event is realized in a grammatically transitive construction. It can be seen that the intended event in this schema, such as the window opening or

the house burning down, is precisely the event expressed by the intransitive member of transitive-intransitive construction pairs like those in (7).

The duality between intending agent and intended event nevertheless leaves open various possibilities in the way the intended event may leave its trace on grammatical expression. In cases corresponding to the Hopper-Thompson prototype, such as (7), it is the theme, the central entity that undergoes a physical change in the intended event, that is realized as grammatical object. But the intended event may be one that involves no physical change in a real-world entity, involving instead an entity entering into the field of perception of the agent, as with verbs of perception, and may extend to cases where the intended event occurs in possible worlds that may not include the actual world, such as with verbs of waiting and searching. The intended event may also be an occurrence of a feeling, positive or negative, associated with someone or something, as in the case of verbs of emotion. And since what is intended is an event as a whole, the possibility exists of the entire event or activity, not merely one of its participants, being realized as grammatical object, as seen in the case of intransitive activity verbs and Sino-Japanese *suru* constructions where intentionality is present. Even the location of the intended event, to the degree that the event is coextensive with the totality of the location (Kuno 1973), as in crossing the sea, going through a tunnel, walking through a park, etc., may function as object in the grammatical representation of the intended event. Objects marked by *o* appearing in accusative constructions range across entities in all these different categories, but are bound together by a common link to intentional meaning, and their accusative marking may be seen to be licensed by the inherently transitive character of that intentional meaning.

To say that intentional meaning is inherently transitive in character may appear to be disconfirmed by the possibility of intentional meaning arising in intransitive predicates as well, such as the activity predicates considered earlier (*hataraku* ‘work,’ *odoru* ‘dance,’ *asobu* ‘play,’ *oyogu* ‘swim,’ *hasiru* ‘run,’ *aruku* ‘walk,’ *tobu* ‘fly,’ etc.). As noted earlier, though, these predicates do in fact share many traits of grammatical behavior with transitive verbs, such as their ability to occur in imperative, potential, and conative constructions. To this list may be added their ability to occur in passive *rare* constructions, like transitive verbs but unlike non-intentional intransitives, as seen in (33).

- (33) a. *Sonna-ni dara-dara hatarak-(r)are(te-wa komar)u*. [intentional intransitive]  
 like.that sluggishly work-PASS-(GER-TOP be.put.out-NPST)  
 ‘I can’t have (you) work so sluggishly like that.’
- b. *Konna-ni atui hi ni wa mado o*  
 like.this hot day TMP TOP window ACC  
*sime-rare(te-wa komaru)*. [transitive]  
 shut<sub>tr</sub>-PASS-(GER-TOP be.put.out-NPST)  
 ‘I can’t have (you) shut the windows (on me) on a hot day like this.’

- c. \**Konna ni atui hi ni wa mado*  
 like.this hot day TMP TOP window DAT  
*ni simar-(r)are(te-wa komaru)*. [non-intentional intransitive]  
 shut<sub>in</sub>-PASS-(GER-TOP be.put.out-NPST)  
 ‘I can’t have the windows shut (on me) on a hot day like this.’

They also exhibit aspectual characteristics similar to transitives, such as taking a progressive meaning with the *te-i(ru)* aspectual affix, like transitives, as opposed to non-intentional intransitives, which take a resulting state interpretation with this affix (as seen in (34)).

- (34) a. *Otto wa tiisana kaisya de hatarai-te-iru*. [intentional intransitive]  
 husband TOP small company LOC work-PROG-NPST  
 ‘My husband is working at a small company.’ [progressive]  
 b. *Soozinin wa ima mado o sime-te-iru*. [transitive]  
 janitor TOP now windows ACC shut<sub>tr</sub>-PROG-NPST  
 ‘The janitor is shutting the windows.’ [progressive]  
 c. *Mado ga simat-te-iru*. (<*simar-te-iru*) [non-intentional intransitive]  
 windows NOM shut<sub>in</sub>-RES-NPST  
 ‘The windows are shut (in a state of having shut).’ [resulting state]

Still, it is not apparent how the transitive duality between intending agent and intended event is reflected in intentional intransitive constructions. The solution to this apparent contradiction lies in the nature of the grammatical subjects of these constructions, which in fact play a dual role, acting at the same time both as agent and theme in the event expressed. Intentional intransitive constructions encode in this sense a reflexive meaning: the event intended by the agent is one in which the agent itself participates. Consider as an example the verb *oyogu* ‘swim,’ illustrated in (35):

- (35) *(Akutenkoo no tame) sensyutati ga kesa okunai puuru*  
 bad.weather GEN reason athletes NOM this.morning indoor pool  
*de oyo-da*.  
 LOC swim-PST  
 ‘Because of the bad weather, the athletes swam this morning in the indoor pool.’

The conceptual structure of activity verbs can be represented, following Kageyama (1996), as in (28a) where MOVE represents motion in general, a meaning feature common to activity verbs, although realized in different ways according to the lexical meaning of the verb. In the case of *oyogu* ‘swim,’ for example, the motion involves a characteristic movement of the arms and legs that accompanies progression



through the water. The particular realization of this meaning in the case of *oyogu* ‘swim’ in (35) may be represented as in (36).

- (36) a. [DO(x)] CAUSE [MOVE(x)]  
       b. [DO(athletes)] CAUSE [MOVE-THROUGH-WATER(athletes)]

The transitive character of the intentional meaning is here reflected in the separate components [DO(x)] and [MOVE(x)], the former representing the event of *x* acting intentionally, a component of meaning shared with the conceptual structure of transitive verbs in (32), and the latter the intended event of *x* itself moving in a particular way. The dual transitive character is thus not realized here in distinct subject and object entities, but rather in distinct roles borne by the single subject entity. Since the theme receives no grammatical expression distinct from the agent subject, the accusative marker *o* may become displaced to other entities, such as the locative path object in *sensyutati ga kawa o oyoida* ‘the athletes swam (across) the river’ or onto a noun expressing the particular type of activity engaged in, such as in *hiraoyogi o oyogu* ‘swim the breaststroke.’ Despite being displaced from the theme entity, though, the accusative particle continues to function as a marker of intentional meaning of the clause as a whole, and the semantically transitive character it thereby possesses.

A correlation between accusative marking and intentional meaning is therefore seen across a wide range of grammatical phenomena in Japanese, providing convincing evidence that intentionality is the key semantic link mediating accusative marking and two-place valency. Intentionality is inherently relational, and therefore bivalent, in that the existence of an intending entity automatically entails the existence of an intended entity. This relationship is undoubtedly one that finds its most basic and primal realization in agentive intentional action of the sort described in Searle’s analysis and underlying the Hopper-Thompson prototype, but intentionality may take forms other than agentive action. It is also present in varieties of human experience where the sentient subject is the passive recipient of, rather than agentive causer of, an event external to itself, as illustrated in non-agentive uses of perceptual predicates such as *mi-ru* ‘see,’ and verbs of receiving such as *uke-ru* ‘receive,’ *koomur-u* ‘undergo,’ *abi-ru* ‘be covered with,’ and *mora(w)-u/itadak-u* ‘get, receive,’ illustrated in (37).

- (37) a. (*Sono sanzi o mimai-to site me o sorasita ga*)  
           that tragedy ACC see-NEG.VOL do-GER eye ACC avert-PST but  
           *tui mite-simatta.*  
           inadvertently see-end.up-PST  
           ‘(I averted my eyes trying not to see the tragedy, but) I inadvertently saw it.’

- b. *Konkai no taihuu de waga-mati wa ookina higai*  
 this.time GEN typhoon CAUS our.town TOP great damage  
*o uketa.*  
 ACC receive-PST  
 ‘Our town suffered great damage in the recent typhoon.’
- c. *Bensi wa kankyaku no kassai o abite*  
 speaker TOP audience GEN applause ACC be.covered.with-GEN  
*(koodan-sita).*  
 step.down-PST  
 ‘The speaker (stepped down) surrounded by the applause of the audience.’

These cases represent a “reverse intentionality” where the flow of causation from intending agent to intended event is reversed, corresponding to a change in the role of the subject from that of agent to that of experiencer, but the same duality between inner world of the intending/experiencing subject and outer world of the intended/experienced event obtains, in either case imparting an inherently bivalent character to the meaning, and grammar, of the constructions in question.

Another variant on intentional meaning arises where inanimate entities such as natural forces are seen to move under their own power or to exert control over other events, in a way analogous to animate agents. Accusative constructions may in this way become licensed with inanimate subjects, as seen with predicates such as *okosu* ‘cause, bring about,’ *syoozi-ru* ‘give rise to,’ *manek-u* ‘invite,’ and *kitas-u* ‘bring about,’ (38a,b) as well as activity predicates taking locative objects (38c), parallel to agentive constructions.

- (38) a. *Sono kaisya no toosan wa kensetu gyookai ni rensa*  
 that company GEN bankruptcy TOP construction industry DAT chain  
*hannoo o okosita.*  
 reaction ACC cause-PST  
 ‘The bankruptcy of that company caused a chain reaction in the construction industry.’
- b. *Kono hooan wa syoorai samazama-na mondai o*  
 this bill TOP in.future many problems ACC  
*syooziru daroo.*  
 give.rise.to-NPST probably  
 ‘This bill will undoubtedly give rise to many problems in the future.’
- c. *Mati no naka o kawa ga nagarete-iru.*  
 town GEN center ACC river NOM flow-PROG-NPST  
 ‘A river flows through the center of town.’

Conceiving of an event as being caused by a controlling force is conceptually one step removed from conceiving of an event as caused by an intending agent, so that the bivalency inherent in the relationship of intending agent to intended event is mirrored directly in the relationship of controlling force to controlled/caused event.

The act of intending, and the related acts of experiencing and controlling, provide in this way a relational meaning component that accounts for the bivalency of the accusative construction, just as a basis in relational meaning exists for the bivalency of constructions with comitative and dative second arguments. The fact remains, however, that the relational character of intentional meaning is one that can more easily be disassociated from the meaning of transitive predicates than can the relational meaning present in comitative and dative constructions. As illustrated in (39), predicates taking dative and comitative second arguments typically refer to configurational or logical relationships that inherently exist between two entities in a stative, permanent fashion that cannot be divorced from the meaning of a predicate, unlike the temporally contingent relationship existing between an intending (or experiencing) subject and an intended (or experienced) event.

- (39) a. *Boku no iken wa kare no to tiga-u.*  
           I     GEN opinion TOP he     GEN COM differ-NPST  
           ‘My opinion is different from his.’
- b. *Ano hito wa boku no ozi ni ataru.*  
           that person TOP me     GEN uncle DAT correspond  
           ‘That person is (corresponds to) my uncle.’

This is borne out by the very fact that intentional meaning is often encoded by transitive verbs that alternate with intransitive partners (*waru-wareru* ‘crack,’ *akeru-aku* ‘open,’ *naosu-naoru* ‘fix-get fixed,’ etc.). These pairs have meanings that are inherently concerned with the occurrence of change in some entity (e.g., from being whole to being divided in parts, from being shut to being open, from being broken to being fixed, etc.), and differ solely in whether that change is expressed as being externally caused or not. The fact that intransitive expression is possible in these cases shows that intentional meaning itself is not inherent to their meaning, but is an ‘extra’ layer of meaning imposed, and lexicalized, in the transitive member of the pair. What kinds of change come to be associated with an external force strongly enough to warrant the existence of a lexicalized transitive predicate is not something that is determined by the logical nature of the change, but is ultimately something grounded in experience, to the degree that the change is commonly associated or not with an external force that brings it about (Jacobsen 2016, Matsumoto 2016). Transitive-intransitive verb pairs therefore provide speakers of the language with the *option* of presenting the change as occurring either with or without the influence of an external force, that is, as either involving one participant or two. In the next section, we consider what happens when gaps arise in the lexical mechanisms for expressing this distinction.

## 5 Increasing and decreasing valency: transitives, causatives, and passives

As seen above, transitive-intransitive morphological pairs in Japanese have as one of their functions to alternately increase or decrease the number of arguments in the argument structure of a predicate, and thereby to increase or decrease the number of entities seen as participating in a given event. This is illustrated in Figure 1, where  $n$  represents the number of arguments of a predicate.

$n = 1$ (intransitive)	$n = 2$ (transitive)	$n = 3$ (ditransitive)
<i>ak-u</i> ‘open <sub>in</sub> ’	<i>ake-ru</i> ‘open <sub>tr</sub> ’	
<i>naor-u</i> ‘become fixed’	<i>naos-u</i> ‘fix’	
<i>agar-u</i> ‘rise’	<i>age-ru</i> ‘raise’	

Figure 1

For the predicates in Figure 1, the increase in valency from intransitive to transitive is  $1 \rightarrow 2$  (e.g., *mado ga aku* ‘the window opens’  $\rightarrow$  *Ken ga mado o akeru* ‘Ken opens the window’), but with predicates that have additional arguments beyond agent and theme, such as, for example, a goal argument, the increase in valency between the morphologically intransitive and transitive members of a pair can also be  $2 \rightarrow 3$ , as seen in Figure 2 (e.g., *Booru ga gooru ni hairu* ‘The ball goes into the goal’  $\rightarrow$  *Sensyu ga booru o gooru ni ireru* ‘The athlete puts the ball into the goal’).

$n = 1$ (intransitive)	$n = 2$ (transitive)	$n = 3$ (ditransitive)
	<i>hair-u</i> ‘go in/enter’	<i>ire-ru</i> ‘put in’
	<i>tuk-u</i> ‘become attached’	<i>tuke-ru</i> ‘attach’
	<i>ata-ru</i> ‘hit <sub>in</sub> against’	<i>ate-ru</i> ‘hit <sub>tr</sub> against’

Figure 2

The general relationship between the valency of the transitive and intransitive members of such pairs can be schematized as in (40), where  $n(V_{tr})$  represents the number of arguments of the transitive form and  $n(V_{in})$  represents the number of arguments of the intransitive form.

$$(40) \quad n(V_{tr}) = n(V_{in}) + 1$$

Not all verbs fall into transitive-intransitive pairs, however. There are numerous cases in Japanese of intransitive verbs without transitive partners and transitive verbs without intransitive partners, as illustrated in Figure 3.

n = 1 (intransitive)	n = 2 (transitive)	n = 3 (ditransitive)
<i>nak-u</i> ‘cry’	∅	
<i>aruk-u</i> ‘walk’	∅	
∅	<i>nagur-u</i> ‘hit’	
∅	<i>tabe-ru</i> ‘eat’	

Figure 3

Partnerless verbs such as these exhibit a unique characteristic that sets them apart from verbs entering into standard transitive-intransitive pairs. As noted at the end of Section 4, the transitive and intransitive member in standard transitivity pairs share all features of their meaning except the lack or presence of intentional meaning, or related meanings such as experience or control. There is nothing about their meaning, that is, that ties the occurrence of the event to the action or experience of an intending subject – when the intentional meaning is ‘bleached’ out of the transitive member of the pair, all that is left is the meaning expressed by the intransitive partner, typically the occurrence of a change of state in the thematic entity. The verbs in Figure 3, however, all bear reference in their meaning to some action or body part that is inseparably tied to the agent. *Nagur-u* ‘hit,’ for example, includes as part of its meaning a particular movement of the arm of the agent, and *tabe-ru* ‘eat’ is inseparable in its meaning from anatomical details of the agent’s body and motions of these that are involved in the act of eating. It is impossible therefore for the intentional component of meaning to be bleached out from these verbs in a way that leaves pure occurrence of change of state in the thematic entity as a result. This places a significant obstacle in the way of lexicalizing a purely change-of-state meaning in a corresponding intransitive verb having no reference to an intending subject, as is the case with the intransitive member of a standard transitive-intransitive pair. *Nak-u* ‘cry’ and *aruk-u* ‘walk,’ conversely, are *intransitive* verbs that bear inherent reference to a complex set of bodily motions that are difficult to disassociate from the agency or control of the subject, and to be viewed as pure, non-agentive changes of state occurring in the subject. This in turn makes it difficult for the subject entity to take on a non-agentive thematic role as object of a corresponding lexical transitive.

Situations nevertheless arise where it may be necessary to add or subtract participants to or from the set of participants specified in the argument structure of partnerless verbs. Events such as crying or walking, for example, can in certain situations be seen to be the consequence of agentive control by an entity other

than the intransitive subject, so that a method of adding that individual as an additional participant in the event of crying or walking becomes desirable. In the case of events such as hitting or eating, by contrast, the speaker may wish to highlight what happens to the object of the hitting or eating, without regard for, or perhaps due to lack of knowledge of, the agent that intends the event of hitting or eating. The need arises, that is, to increase or decrease the valency of verbs in Figure 3 in such a way as to fill the gaps indicated by  $\emptyset$ , even when there is no predicate available in the lexicon of Japanese to fill those gaps. In such cases, the grammar steps in to fill the gap left by the lexicon, providing a valency-increasing causative *sase* form to fill the gap existing in the transitive slot and the valency-decreasing direct passive *rare* form to fill the gap existing in the intransitive slot.

n = 1 (intransitive)	n = 2 (transitive)	n = 3 (ditransitive)
<i>nak-u</i> ‘cry’	$\emptyset \rightarrow \textit{nak-(s)aseru}$ ‘make/let cry’	
<i>aruk-u</i> ‘walk’	$\emptyset \rightarrow \textit{aruk-(s)aseru}$ ‘make/let walk’	
$\emptyset \rightarrow \textit{nagur-(r)areru}$ ‘be hit’	<i>nagur-u</i> ‘hit’	
$\emptyset \rightarrow \textit{tabe-rareru}$ ‘be eaten’	<i>tabe-ru</i> ‘eat’	

Figure 4

The causative *sase* form may also be appropriated, as the need arises, to fill gaps existing at valencies higher than 2, for example by effecting a valency change of  $2 \rightarrow 3$  on an already transitive predicate, as seen in Figure 5.

n = 1 (intransitive)	n = 2 (transitive)	n = 3 (ditransitive)
<i>nak-u</i> ‘cry’	<i>nak-(s)aseru</i> ‘make/let cry’	
<i>aruk-u</i> ‘walk’	<i>aruk-(s)aseru</i> ‘make/let walk’	
<i>nagur-(r)areru</i> ‘be hit’	<i>nagur-u</i> ‘hit’	$\emptyset \rightarrow \textit{nagur-(s)aseru}$ , ‘make hit’
<i>tabe-rareru</i> ‘be eaten’	<i>tabe-ru</i> ‘eat’	$\emptyset \rightarrow \textit{tabe-saseru}$ ‘make eat, feed’

Figure 5<sup>11</sup>

<sup>11</sup> As pointed out by a reviewer, the *o*-marked entities receive a different interpretation in *Kodomo o tabe-saseru*. ‘I feed the child (make the child eat)’ vs. *Kodomo o nagur-aseru* ‘I make (someone) hit the child’: *kodomo* ‘child’ receives the preferred interpretation of agent of the eating in the former vs. patient of the hitting in the latter, with a separate, unexpressed agent of hitting. *Tabe-saseru* is in this case functioning as a two-place predicate, suggesting that it is based on a one-place intransitive use of *tabe-ru* ‘(someone) eats’ alongside its regular transitive use, whereas *nagur-u* is consistently transitive in argument structure. The valency-increasing character of *sase* is nevertheless unchanged in all these cases.

The increase or decrease in valency effected by the causative and direct passive forms, respectively, can be schematized as in (40).

$$(40) \text{ a. } n(Vsase) = n(V) + 1$$

$$\text{b. } n(Vrare) = n(V) - 1$$

Changes of valency of  $1 \rightarrow 2$ ,  $2 \rightarrow 1$ , and  $2 \rightarrow 3$  involving causative and direct passive forms are illustrated for *aruku* ‘walk’ and *taberu* ‘eat’ in (41).

- (41) a. *Inu ga arui-ta.* → *Kainusi ga inu o (kooen de) aruk-(s)ase-ta.*  $1 \rightarrow 2$   
 dog NOM walk-PST owner NOM dog ACC (park LOC) walk-CAUS-PST  
 ‘The dog walked’ → ‘The owner walked the dog (in the park).’
- b. *Neko ga nezumi o tabe-ta.* → *Nezumi ga (neko ni) tabe-rare-ta.*  $2 \rightarrow 1$   
 cat NOM mouse ACC eat-PST mouse NOM (cat DAT) eat-PASS-PST  
 ‘The cat ate the mouse.’ → ‘The mouse was eaten (by the cat).’
- c. *Neko ga nezumi o tabe-ta.* → *Kainusi ga neko ni nezumi o tabe-sase-ta.*  $2 \rightarrow 3$   
 cat NOM mouse ACC eat-PST owner NOM cat DAT mouse ACC eat-CAUS-PST  
 ‘The cat ate the mouse.’ → ‘The owner fed the mouse to the cat.’

Although it may appear that there is no decrease in valency in (41b) because both arguments *neko* ‘cat’ and *nezumi* ‘mouse’ of the transitive *taberu* appear with the passive form *tabe-rareru* as well, the agent *neko ni* ‘by the cat’ is in fact not an obligatory argument here, as indicated by the parentheses, and may be omitted without a sense of ellipsis. In effect, causative and passive forms fill in as functional equivalents for absent transitive and intransitive forms, alternately increasing and decreasing valency in the same way as standard transitive and intransitive forms do.

The fact that the gaps in Figure 3 are filled by “marked” forms that are longer and more complex than simplex lexical forms would otherwise be reflects the special “marked” character of the meaning here, setting these forms apart from the kinds of meaning typically associated with standard transitives and intransitives forming pairs, such as those in Figure 2 and 3. The object theme in the valency-increased transitive clause in (41a), for example, is not totally devoid of agency as is the case with thematic objects of standard, lexical transitive verbs, and the valency-decreased clause filling in for the intransitive in (41b) is not devoid of reference to the intention of the suppressed agent, as would be the case in a standard intransitive verb of the kind having a transitive partner.

An interesting effect occurs when a predicate undergoes both causativization and passivization successively, resulting in the combined form *Vsaserare*. Considering that *sase* increases, and *rare* decreases, valency by one, the net effect on valency

of combining the two should be zero, as predicted if we make the relevant substitution of values from (40) as follows.

$$(42) \quad n((Vsase)rare) = n(Vsase) - 1 = (n(V) + 1) - 1 = n(V) + 0 = n(V)$$

In fact, what we find is not only that the valency of a *Vsaserare* form is the same as that of *V* itself, but that the very argument structure of the *Vsaserare* form is the same as that of the original *V*. This is illustrated step by step in (43), beginning with a predicate *taberu* ‘eat’ of valency 2 in (43a), increasing its valency to 3 by converting it into a causative with the addition of the external agent *hahaoya* ‘mother’ in (43b), and then reducing its valency by 1 via direct passivization in (43c). Note that direct passives in Japanese allow the promotion to subject position of *ni*-marked arguments, thus allowing *kodomo* ‘child’ in (43b) to be promoted to subject position in (43c), and also that the agent *hahaoya* ‘mother’ demoted from subject position in (43b) is no longer an obligatory argument in (43c).

- (43) a. *Kodomo ga nattoo o taberu.*  $n = 2$   
           child   NOM fermented.beans ACC eat-NPST  
           ‘The child eats fermented beans.’
- b.  $\rightarrow$  *Hahaoya ga kodomo ni nattoo o tabe-saseru.*  $n = 3$   
           mother   NOM child   DAT fermented.beans ACC eat-CAUS-NPST  
           ‘The mother makes the child eat fermented beans.’
- c.  $\rightarrow$  *Kodomo ga (hahaoya ni) nattoo o tabe-sase-rareru.*  $n = 2$   
           child   NOM (mother DAT) fermented.beans ACC eat-CAUS-PASS-NPST  
           ‘The child is made to eat fermented beans (by his mother).’

The net effect is that the complex form *tabesaserareru* ‘be made to eat’ takes the same two arguments *kodomo ga* ‘child NOM’ and *nattoo o* ‘fermented beans ACC’ as the original verb *taberu* ‘eat.’

When an intransitive verb has no transitive partner, then, the gap left by the missing transitive can be filled by the functionally equivalent causative of the intransitive. This raises the question of what happens in the case of a causative formed from an intransitive verb that does have a lexical transitive partner, giving rise to two distinct forms that “compete” for the same territory of meaning defined by a given argument structure. There is a general principle of economy operating in natural language that resists such duplication, so that one of the two competing forms tends to be “blocked” from occurring (Miyagawa 1984) in such cases. When such blocking occurs, it is the longer and more complex causative form that is blocked in favor of the shorter and less complex lexical form, as illustrated in Figure 6.



n = 1 (intransitive)	n = 2 (transitive)	n = 3 (ditransitive)
<i>aku</i> 'open <sub>in</sub> '	<i>akeru</i> 'open <sub>tr</sub> ' <i>ak-(s)aseru</i>	
<i>naoru</i> 'heal <sub>in</sub> /become fixed'	<i>naosu</i> 'heal <sub>tr</sub> /fix' <i>naor-(s)aseru</i>	
	<i>tuku</i> 'become attached'	<i>tukeru</i> 'attach' <i>tuk-(s)aseru</i>
	<i>hasamaru</i> 'become sandwiched between'	<i>hasamu</i> 'put between' <i>hasamar-(s)aseru</i>

Figure 6

But such blocking does not occur in all cases of apparently competing forms such as these. There are numerous cases where the causative of a lower-valency form is observed to co-exist alongside the lexical form of higher valency, as illustrated in Figure 7.

n = 1 (intransitive)	n = 2 (transitive)	n = 3 (ditransitive)
<i>agaru</i> 'rise/go up'	<i>ageru</i> 'raise/lift up' <i>agar-(s)aseru</i> 'cause to go up.'	
<i>tomaru</i> 'stop <sub>in</sub> '	<i>tomeru</i> 'stop <sub>tr</sub> ' <i>tomar-(s)aseru</i> 'cause to/let stop.'	
<i>tatu</i> 'stand <sub>in</sub> up'	<i>tateru</i> 'stand <sub>tr</sub> up' <i>tat-(s)aseru</i> 'cause to/let stand'	
	<i>hairu</i> 'go in/enter'	<i>ireru</i> 'put in' <i>hair-(s)aseru</i> 'cause to/let go in'

Figure 7

It would run counter to the principle of economy for competing forms identical in meaning and function to coexist with one another as appears to be the case here so a strategy must be adopted to avoid such an overlap in meaning. Such a strategy is available in the form of a division of labor that arises between the two members, that makes it possible for the two forms to coexist without completely overlapping in their meaning. The exact form this division of labor takes varies from case to case, and is subject to considerable idiolectal variation, but a number of parameters along which this division of labor can occur have been pointed out in the classic work on causativization by Shibatani (1973, 1976). In the case of *tateru* 'stand<sub>tr</sub> up' vs. *tataseru* 'cause to/let stand,' for example, the causative is blocked in a context like (44a), with an inanimate object, while in (44b), with an animate object capable of standing

under its own agency, it is the lexical transitive that is blocked, thus permitting, indeed requiring, use of the causative form.

- (44) a. *Taoreta hei o massugu ni tateta/\*tataset.*  
 fall.over-PST fence ACC straight DAT stand.up<sub>tr</sub>-PST/stand.up<sub>in</sub>-CAUS-PST  
 'I stood up the fence that had fallen over.'
- b. *Kodomo o heya no sumi ni \*tateta/tataset.*  
 child ACC room GEN corner LOC stand.up<sub>tr</sub>-PST/stand.up<sub>in</sub>-CAUS-PST  
 'I made the child stand in the corner.'

In the pair illustrated in (45), by contrast, the causative *hairaseru* 'cause to/let go in' allows only an animate object, parallel to (44), while the transitive *ireru* 'put in' permits *either* an animate or inanimate object.

- (45) a. *Isu o heya ni ireta/\*hairaset.*  
 chair ACC room DAT put.in-PST/go.in-CAUS-PST  
 'I put the chair in the room.'
- b. *Gakusei o heya ni ireta/hairaset.*  
 student ACC room DAT put.in-PST/go.in-CAUS-PST  
 'I let the student into the room.'

From the examples so far one might conclude that inanimate objects are not allowed with causative forms built on intransitive verbs, but the examples in (46) indicate otherwise.

- (46) a. *Mizu o sponzi ni simikom-(s)aset.*  
 water ACC sponge DAT soak.in<sub>in</sub>-CAUS-PST  
 'I soaked water into the sponge.'
- b. *Reizooko in irezu-ni yasai o kusar-(s)ase(te-simat)ta*  
 refrigerator DAT put.in-NEG-GER vegetables ACC rot-CAUS-end.up-PST  
 'Without (by not) putting them in the fridge, I let the vegetables rot.'

The causatives in (46), however, are ones formed from intransitives (*simikom-u* 'soak<sub>in</sub> into' and *kusar-u* 'rot') that have no transitive partner, illustrating how the causative in such cases takes over the full range of meaning of the missing transitive verb, with no restrictions placed on it by a competing form.

While forms such as *simikom-(s)aseru* 'soak<sub>tr</sub> in' in (46) are remarkable for being grammatically derived causatives that take inanimate, non-intentional thematic objects, the form *ireru* in (45b) is, to the contrary, remarkable for being a simple lexical transitive that *allows* an animate object acting under its own intentional agency, something

normally not seen with thematic objects in standard transitive constructions. Not all animate objects of *irenu*, though, allow an agentive interpretation, as illustrated in (47).

- (47) *Kodomo o hako ni ireta.*  
 child ACC box LOC put.in-PST  
 I (forcibly) put the child in the box

(47), if somewhat awkward, is possible only under the interpretation of physical manipulation, unlike the interpretation of (45b). (48) provides further examples of lexical transitives allowing an animate object acting under its own agency, despite the existence of a “competing” causative form built on an intransitive (examples are modified from Shibatani 1976).

- (48) a. *Miti de tuukoonin o tometa/tomar-(s)aseta.*  
 road LOC passerby ACC stop<sub>tr</sub>-PST/stop<sub>in</sub>-CAUS-PST  
 ‘I stopped a passerby on the road.’  
 b. *Musume o nikai e ageta/agar-(s)aseta.*  
 daughter ACC 2nd.floor LOC send.up-PST/go.up-CAUS-PST  
 ‘I sent my daughter to the second floor.’  
 c. *Hahaoya ga gakkoo no mae de kodomo o*  
 mother NOM school GEN front LOC child ACC  
*orosita/?ori-saseto*  
 let.off-PST/get.off-CAUS-PST  
 ‘The mother let the child off (a vehicle) in front off the school.’

As argued in Shibatani (1976), a division of labor of the following sort can be observed in these cases: the lexical transitive is associated with more normal, less marked situations that can be seen to have a ‘conventional purpose,’ leaving the grammatically derived causative to express situations that are less usual and lacking in such a conventional purpose. Though there is significant idiolectal variation, for example, many native speakers prefer the lexical transitive *tomeru* ‘stop<sub>tr</sub>’ in (48a) if the stopping has a conventional purpose such as to ask directions from the passerby, whereas *tomar-(s)aseru* ‘cause to stop<sub>in</sub>’ is preferred for nonconventional purposes such as stopping a passerby just for the fun of doing so.<sup>12</sup>

Turning now to the opposite case of reduced valency, a competition similar to that seen to arise between a lexical transitive and the causative form of its corresponding lexical intransitive might be anticipated to occur between a lexical *intransitive* form and the *passive* form of its corresponding lexical transitive. We might

<sup>12</sup> Other examples of the use of ‘marked’ causative forms to express ‘marked’ situations that are less normal are discussed in McCawley (1978).

therefore expect to see instances where the passive of a transitive is blocked by the existence of an intransitive form. Interestingly, however, unlike the causative case, such instances of blocking are almost never seen: the passive of a transitive coexists almost without exception with its corresponding lexical intransitive, as seen in Figure 8.

n = 1 (intransitive)	n = 2 (transitive)	n = 3 (ditransitive)
<i>wareru</i> ‘break <sub>in</sub> , crack <sub>in</sub> ’ <i>war-(r)areru</i> ‘be broken/cracked’	<i>waru</i> ‘break <sub>tr</sub> , crack <sub>tr</sub> ’	
<i>kireru</i> ‘become cut, disconnected’ <i>kir-(r)areru</i> ‘be cut, severed’	<i>kiru</i> ‘cut, sever’	
<i>tatu</i> ‘stand <sub>in</sub> up’ <i>tate-rareru</i> ‘be stood up, built’	<i>tateru</i> ‘stand <sub>tr</sub> up, build’	
	<i>hairu</i> ‘go in, enter’ <i>ire-rareru</i> ‘be put in, inserted’	<i>ireru</i> ‘put in, insert’

Figure 8

This difference in behavior between causatives and passives may be accounted for in the following way: while both the intransitive and passive of a transitive exhibit a lower valency than the corresponding transitive, in the sense that the number of *obligatory* arguments is one less than the corresponding transitive, the passive of the transitive cannot be fully disassociated from the presence of a hidden agent that may optionally be realized as an *optional* adjunct, unlike the corresponding lexical intransitive. The possibility is therefore always present of a division of labor arising between an intransitive form and the passive of the transitive, unlike the case of a transitive versus the causative of the intransitive, where a complete overlap in meaning and function may occur causing the causative form to be blocked, particularly in cases where the intransitive does not allow an intentional interpretation. The division of labor between intransitives and corresponding grammatically derived passives can be seen in the different interpretation assigned to each form pairwise in examples such as (49).

- (49) a. *Tori wa kago ni hai(r)te-ita/ire-rarete-ita.*  
 bird TOP cage DAT go.in-RES-PST/put.in-PASS-RES-PST  
 ‘The bird was in (in a state of having entered) a cage/had been put in a cage (by someone).’
- b. *Madogarasu ga warete-ita/war-(r)arete-ita.*  
 windowpane NOM break<sub>in</sub>-RES-PST/break<sub>tr</sub>-PASS-RES-PST  
 ‘The windowpane was broken (in a state of having become broken)/had been broken (by someone).’

This division of labor can also be seen in contexts that explicitly exclude the working of a hidden agent, where the passive of the transitive form is in fact blocked by the presence of the intransitive.

- (50) *Arasi de densen ga kirete-ita/\*kir-(r)arete-ita.*  
 storm CAUS electric.lines NOM become.cut-RES-PST/cut-PASS-RES-PST  
 ‘The electric lines had become severed/had been cut (by someone) in the storm.’

Conversely, when a transitive verb lacks an intransitive partner, such as in the case of *ara(w)u* ‘wash,’ no division of labor occurs, and the possibility arises of the passive form co-opting the non-agentive meaning normally borne by intransitive forms, as seen in the lack of an agentive reading in (51).

- (51) *Kawagisi no koisi ga nami ni kirei-ni araw-(r)arete-ita.*  
 river.bank GEN pebbles NOM waves DAT cleanly wash-PASS-RES-PST  
 ‘The pebbles on the riverbank were washed smooth by (the action of) the waves.’

Strategies made available by the grammar to compensate for gaps left in the lexicon, causatives filling in for missing transitives and passives filling in for missing intransitives, thus also give rise to scenarios where the grammatically derived forms compete in meaning and function with already existing lexical forms. The meaning and function of lexical transitives and intransitives, on the one hand, and those of grammatically derived causatives and passives, on the other, can therefore only be fully accounted for in terms of a division of labor that is negotiated between these competing forms, pointing to a fundamentally organic principle governing the meaning and function of these individual forms within the larger structural unity of the language.

## 6 Conclusion and directions for future research

Transitivity in Japanese is a multifaceted phenomenon encompassing syntactic, semantic, and morphological dimensions. What counts as a transitive predicate can be defined independently in terms of any of these three dimensions, with results that do not necessarily overlap. The traditional syntactic definition of a transitive predicate as one that “takes a direct object” picks out as transitive, in its formal Japanese counterpart, predicates that co-occur with accusative *o*-marked nouns (e.g., *A ga B o nagur-u* “A hits B”). But understood in a broader semantic sense, transitivity refers to predicates that have at least two obligatory arguments in their argument structure, encompassing predicates other than those marking their second argument with *o*.

How the presence of two arguments follows from the meaning of the predicate differs in these two cases. Predicates taking comitative or dative second arguments encode, or contain elements of, relational meaning from which the presence of two arguments follows by logical necessity (e.g., *A ga B to tiga(w)-u* “A differs from B,” *A ga B ni a(w)-u* “A fits/matches B”). In the case of standard transitive constructions taking accusative second arguments, by contrast, this chapter has argued that the presence of two arguments is rooted in an intentional meaning component that inherently makes reference both to an intending entity and to an intended event, or an element participating in that event (e.g., *A ga B o tabe-ru* “A eats B,” *A ga B o nagur-u* “A hits B”). This intentionality is not limited to intentionality of the agentive sort defined in the Hopper-Thompson prototype, but encompasses intentionality of another sort present in an experiencing subject that mentally intends an event in the outside world over which it lacks agentive control (*A ga B o mi-ru* ‘A sees B,’ *A ga higai o uke-ru* ‘A receives damage’), and extends to derivative cases of intentionality where control is present but agency absent, such as where an inanimate force or power is seen to causally bring about an event external to itself (e.g., *A ga B o syoozi-ru, okos-u* ‘A gives rise to, brings about B’). Intention, experience, and control are all inherently bivalent notions requiring reference at once to an entity that intends, experiences, or controls, and at the same time to an event that is intended, experienced, or controlled, in all cases encoding an inherently asymmetric relationship where one argument is dominant over the other.

A related, but distinct, dimension of transitivity is encoded in the many transitive-intransitive verb pairs in Japanese defined by various affixal oppositions (*war-u-wareru-u* ‘break, crack,’ *ake-ru-aku-u* ‘open,’ *naos-u-naoru-u* ‘fix-get fixed,’ etc.). In many cases the transitive and intransitive members of these pairs share reference to occurrence of a change of state in an entity, but without *specific* reference to the bodily actions or motions of an outside agent or force that intends or brings about the change. As a result, the change in question may potentially occur with or without the presence of such an outside agent or force, making it possible for the change to be expressed either transitively or intransitively (e.g., *A ga B o war-u* “A breaks B” vs. *B ga ware-ru* “B breaks”). Although the transitive member is lexicalized for intentional meaning, therefore, the bivalency inherent in intentional meaning is separable from the meaning of the predicate in a way that is not possible with relational predicates whose transitivity has a logical foundation. While these transitive-intransitive pairs are numerous and range widely across the verbal lexicon of Japanese, gaps nevertheless arise where lexical transitive or intransitive verbs lack intransitive or transitive partners, respectively. Such gaps are filled by grammatically-derived causative and passive forms that in some cases give rise to new transitive-intransitive oppositions in the language but in other cases compete with existing transitive and intransitive forms, resulting in a mutually negotiated division of labor that plays an important role in governing the meaning and function of the competing forms.

While accusative marking is limited to the morphologically “transitive” member in the majority of lexical transitive-intransitive pairs, there is a significant minority where such marking is possible on both the morphologically “transitive” and morphologically “intransitive” members of the pair (e.g., *A ga B ni C o azuke-ru* ‘A entrusts C to B’ vs. *A ga C o azukar-u* ‘A keeps C’). The intransitive form in such cases exhibits a reduced valency with respect to the transitive form, just as in standard transitive-intransitive pairs, but at the level of meaning, these pairs point to a broad distinction between an event or action that is seen to be directed outward from the subject in the transitive case vs. inward toward the subject in the intransitive case, regardless of the number of arguments, a distinction that informs the traditional Japanese understanding of transitivity as an opposition between *jidō* ‘self-movement and *tadō* ‘other-movement.’ This parameter of transitivity exhibits an overlap with the other parameters of transitivity defined by intentionality and valency in that intentional acts are typically directed outward toward a world external to the intending subject, and in that outward-directed motion entails a more salient bivalent distinction between self (subject) and other than does inward-directed motion. But at the same time areas of non-overlap may be seen among the three parameters, in that intentional acts may be directed inwardly toward the intending subject as well as outwardly away from it, and inward-directed events may involve two distinct entities as well as one, as when an object distinct from the subject is seen to be incorporated into the subject.

Despite areas of non-overlap, however, all three parameters can be seen to point to the existence of a cline like that proposed in Næss (2007) between relatively greater or lesser differentiation between two entities, the transitive term of each parameter pointing to greater differentiation, whether arising from the opposition between the intending subject and the external world, or from the outward orientation of an event away from the self (subject) toward the non-self, and the intransitive term pointing to lesser differentiation, whether inherent in non-intentional occurrence such as spontaneous change of state in an entity, or in the inward orientation of an action or event from the self (subject) to itself. The existence of such a cline in turn points to prototype meanings that define the extreme poles of the cline. While much attention has been directed to a transitive prototype defining the highest, most maximally differentiated pole of the cline, such as the celebrated Hopper-Thompson prototype, relatively little attention has been given to the existence of an intransitive prototype defining the lowest pole of the cline, characterized by zero differentiation. In earlier works (Jacobsen 2007, 2016), I have proposed identifying this intransitive prototype with event occurrence of a spontaneous type, involving the coming into existence of an entity or change of state in an existing entity apart from any external control or cause, such spontaneous occurrence finding its cognitive basis in the primal experience of a sense datum coming to existence in the field of perception. It must be left to future research to determine whether the existence of such a cline and its associated dual prototypes is borne out by investigation of transitive

phenomena across a range of languages and whether such notions prove useful in accounting for phenomena observed in cognitive domains such as language acquisition. It is hoped that the range of transitive phenomena observed for Japanese in this chapter are suggestive of new directions of research in such areas.

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## 3 Topic and subject

### 1 Introduction

There are a great number of interesting research topics in Japanese grammar which reflect the important features of the Japanese language. One of them is the topic of the present chapter, i.e. the grammatical aspects of topic and subject in Japanese. The primary goal of sentence grammar is to elucidate how a sentence is composed and how the meaning of the sentence is related to its composition. One of the most important research questions of sentence grammar is a proper treatment of the grammatical notions of topic and subject.

In sentences of Japanese, the notions of topic and subject are interrelated in a complicated manner. The problem of the distinction between the particles *wa* and *ga* is a typical example that indicates the complicated relation. Reflecting this state of affairs, there has been a continuous flow of research on the relation of topic and subject in the long history of the study of Japanese grammar. The significance of this research topic is exemplified by the following facts: that Mikami (1960) is still quoted in articles and monographs, that Hattori et al. (eds.) (1978), the first comprehensive anthology of Japanese grammatical studies, provided a section for the topic/subject research, and that introductory Japanese linguistics textbooks invariably contain a chapter on the problem of topic and subject.

The research on grammatical relations such as subject and object has long attracted many linguists, and there are too many important research results to mention.<sup>1</sup> In contrast, full-scale investigations into the notion of topic started fairly recently, after the appearance of the research framework called “information structure”. Compared with that situation, it can be said that the state of affairs concerning the research on topic and subject in Japanese, to which great attention has been directed, is a notable characteristic of the Japanese grammatical studies.

In discussing the topic/subject issue, we are required to give an account of how the notions of topic and subject are to be conceptualized. Our basic stance as to this point is a fairly standard one, which is adopted by many linguists. That is, the topic of a sentence is taken to be the constituent X in the sentence where a comment is made on X. The semantic notion of “aboutness” (“what the sentence is about”) plays a crucial role in characterizing the topic of a sentence (cf. Reinhart 1982, Gundel and Fretheim 2004).

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<sup>1</sup> See Farrell (2005) for the research on grammatical relations in general, Falk (2006) for the research on subject, and Postal (2010) for the research on object.

Subject, on the other hand, is one of the grammatical relations that function significantly in the composition of a sentence. Direct object and indirect object as well as subject are the representative grammatical relations to be mentioned. Among the grammatical relations of the sentence, subject is considered to be the highest in superiority. This characteristic of subject is referred to as “the most prominent” grammatical relation by Speas (1990:11) and “the most syntactically privileged” grammatical relation by Farrell (2005:14).

The objective of the present chapter is twofold: one is to provide an overview of the main stream found in the previous research on the topic and subject in Japanese, and the other is to present my own view of the topic/subject issue as a possible extension of the observed stream of the previous research. Thus, this chapter is composed of two main sections. Section 2 is devoted to a description of the points of the previous research on Japanese topic/subject. This is followed by section 3, which presents a possible direction for further development of the topic/subject issue. Concluding remarks will be given after section 3.

## 2 A survey of the previous research on the topic and subject in Japanese

In this section, I would like to make a general survey of the previous research on the topic/subject in Japanese.

### 2.1 Matsushita's and Sakuma's research

In the long history of the Japanese topic/subject research, Matsushita (1928) and Sakuma (1941) stand out as key research results. These two studies are to be mentioned specifically in that they laid the foundations of the Japanese topic/subject research, occupying important positions in the accumulated research literature dealing with the topic/subject issue. Thus I will point out the contributions that Matsushita (1928) and Sakuma (1941) made to the development of the research topic.

Let us start with Matsushita (1928). Key points presented by Matsushita (1928) are the following: (i) the distinction between the topic (Matsushita uses the term *daimokugo* ('topic word')) and the subject, (ii) a language typology in relation to the topic/subject distinction, (iii) the distinction between “the topic sentence” (a sentence with a topic) and “the topicless sentence” (a sentence without a topic), and (iv) the distinction between “known” and “unknown”. These points will be described below in this order.

With respect to the first point, Matsushita claims that in Japanese it is important to distinguish between “logical subject” and “grammatical subject”. According to Matsushita, “logical subject” is the entity being judged and should be called *daimokugo*, whereas “grammatical subject” expresses the central or subject entity of a given state of affairs. He calls attention to the fact that the topic of a sentence is not necessarily a grammatical subject (the central entity), as shown in (1) and (2). *Sakura wa* in (1) is both topic and grammatical subject of the sentence, while in (2) the topic *kono ki wa* expresses the object entity of the sentence, not the subject entity.

- (1) *Sakura wa haru saku.*  
 cherry blossoms TOP spring bloom  
 ‘Cherry blossoms bloom in spring.’
- (2) *Kono ki wa watasi ga ueta.*  
 this tree TOP I NOM planted  
 ‘This tree, I planted it.’

In this connection, it is noted that Matsushita recognizes a government-dependence relation between the predicate of a sentence and its grammatical subject. This idea is equivalent to the current linguistic view that there is a dependency relation between the predicate and its subject and that the predicate is the head of a sentence. He states that the subject of a sentence as well as the object (*kyakugo* ‘object word’ in his terminology) functions to “complete the predication”. His idea that the subject functions as a complement of the predicate antedates the generally accepted view in modern linguistics that the subject is an argument of the predicate.

The second point of Matsushita (1928) is that of a language typology in relation to the topic/subject distinction. Matsushita argues that in contrast to Japanese, which requires a strict distinction between the notion of topic and that of subject, Indo-European languages like English do not distinguish these notions, expressing both the entity being judged and the central entity of a state of affairs in the form of grammatical subject. In Indo-European languages, he says, the content of (2) is expressed by sentences like “this tree was planted by me”. Thus Matsushita clearly noticed the typological difference between Japanese and Indo-European languages in respect to the distinction between the topic and the subject.

On the basis of the topic/subject distinction in Japanese, Matsushita moves a step further and points out that a Japanese sentence may or may not have a topic. This is the third point, mentioned above, i.e. the distinction between “the topic sentence” and “the topicless sentence”.

He illustrates the topic/topicless sentence distinction with a sentence in which the particle *wa* is used as in (3) and a sentence in which the particle *ga* is used as in (4).

- (3) *Sakura no hana wa sigatu no hazime ni saki-masu.*  
 cherry GEN blossoms TOP April GEN beginning in bloom-POL  
 ‘Cherry blossoms bloom in the beginning of April.’
- (4) *Hana ga sai-ta.*  
 blossoms NOM bloom-PST  
 ‘Blossoms bloomed.’

According to Matsushita, sentences like (3) take a topic-comment pattern, with the topic being presented by the particle *wa*, while those like (4) take a topicless pattern, where the particle *ga* represents the subject relation to the predicate.

Another important observation of Matsushita’s is that the *wa/ga* distinction is related to the contrast of *kyū-gainen* (‘old notion’) and *shin-gainen* (‘new notion’), an equivalent of the old/new information contrast. This is essentially the distinction between “known” and “unknown”, mentioned above. He argues that in the topic-comment composition, the topic is “determined” previous to the comment, and hence it becomes an old/known notion. The entity being judged is claimed to be “determined and invariable” prior to the judgment. As opposed to the topic, the comment is “undetermined and variable”, and hence it becomes a new/unknown notion.

Matsushita illustrates this point with the following examples.

- (5) *Watasi wa nanigasi toiu mono desu.*  
 I TOP so-and-so called person COP  
 ‘I am a person called so-and-so.’
- (6) *Watasi ga o-yobidasi no nanigasi desu.*  
 I NOM POL-paged GEN so-and-so COP  
 ‘I am the paged so-and-so. (The person paged is me.)’

In (5), the topic *watasi* is determined and invariable, and the comment *nanigasi toiu mono desu* is undetermined and variable, i.e. unknown. In (6), on the other hand, the determined and invariable part is *o-yobidasi no nanigasi desu*, with *watasi ga* providing an unknown notion. Matsushita further states that (6) can be converted into the topic sentence *o-yobidasi no nanigasi wa watasi desu* ‘the paged so-and-so is me’.

Matsushita’s observation above is noteworthy in view of the history of linguistics. That observation was as early as that of the Prague School linguist Mathesius, who is known to be an advocate of the theory of old/new information. Another aspect of Matsushita’s observation with respect to the known/unknown distinction will be discussed in 3.2.

Let us turn to Sakuma (1941). What is significant about Sakuma's research is his original distinction of two sentence types and its relevance to the topic/subject issue.

Sakuma, attaching importance to explicating the structural composition of sentences, proposed to allow for two important types of declarative sentence. These sentence types are referred to as *shinasadame-bun* ('evaluative sentence') and *monogatari-bun* ('event sentence'). He characterizes *shinasadame-bun* as "the sentence whose function is to describe a property/state of a given entity or to express judgment", and *monogatari-bun* as "the sentence whose function is to describe an event that takes place" (Sakuma 1941:153).

Sakuma points out that the sentence types in question are not just conceptual but that they manifest themselves differently in their structural compositions. That is, the evaluative sentence takes the form (*nani-nani*) *wa* (*koo-koo/nanika*) *da* '(such and such) is (such and such)', where the beginning portion appears as the topic of the sentence (Sakuma 1941:155). The event sentence, on the other hand, takes the form (*nani-nani*) *ga* (*dooka*) *suru/sita* '(such and such) do/did (such and such)', where in addition to the requirement that a verb should appear as the predicate, "the specification of the temporal and spatial setting" is indispensable since "the description of an event would not be complete, if the temporal/spatial setting is not explicit" (Sakuma 1941:154). Thus, Sakuma draws attention to the fact that the distinction between the evaluative sentence and the event sentence is reflected in their structural compositions. Particularly important is his observation that topicalization and temporal/spatial specification are involved in the evaluative sentence and the event sentence, respectively. In referring to the evaluative/event sentence distinction, which plays a crucial role in this chapter, I will henceforth make use of the terms "property predication sentence" and "event predication sentence".

To sum up, the points of Matsushita's (1928) and Sakuma's (1941) research are the following: (i) the notion of topic and that of subject are distinguished in Japanese, (ii) with respect to the topic/subject distinction, we can think of different language types: the Japanese type, which distinguishes topic and subject, and the English type, which does not make such a distinction, (iii) "the topic sentence" and "the topicless sentence" are differentiated in Japanese, (iv) the topic/topicless sentence distinction is related to the known/unknown distinction, and (v) the evaluative sentence (property predication sentence) vs. event sentence (event predication sentence) distinction has a bearing on whether a topic appears in a sentence or not.

## 2.2 Three significant points found in the previous research

In 2.1, I presented the points of Matsushita's (1928) and Sakuma's (1941) view on the topic/subject issue. Observing the development of the Japanese topic/subject research after Matsushita and Sakuma, it is possible to narrow the above points of their research down to three major points: (a) the predication types of "property

predication” and “event predication” and their relevance to the topic/subject issue, (b) the language typology based on the topic/subject distinction, and (c) the relation between the topic/topicless sentence distinction and the known/unknown distinction. I will discuss these points in this order.

Let us start with the first point, i.e. the two predication types and their relevance to the topic/subject issue. As studies that made a great contribution to this problem, Mikami (1953) and Kawabata (1976, 2004) should be mentioned, in addition to Sakuma (1941).

Mikami (1953), following Sakuma’s (1941) idea of the evaluative/event sentence distinction, characterizes the two sentence types in terms of the part of speech of the predicate concerned. He uses the terms *meishi-bun* (‘noun sentence’) and *dōshi-bun* (‘verb sentence’) in place of Sakuma’s *shinasadame-bun* and *monogatari-bun*: *meishi-bun* is a sentence whose predicate is a noun, and *dōshi-bun* is a sentence whose predicate is a verb.

According to Mikami, the noun sentence expresses “a quality of a given entity”, while the verb sentence expresses “the process of an event”. He states that how and to what extent the noun sentence and the verb sentence are distinguished can vary among languages, and that Japanese makes a clearer distinction than West European languages.

The clear distinction between the noun sentence and the verb sentence in Japanese is claimed to be substantiated more than anything else by how a topic appears in a sentence. Mikami, who like Sakuma attaches importance to the topic status in a sentence, argues that the noun sentence expresses a categorical judgment by means of its form “topic (the whole) – comment (its part/side is such and such)”, and that “the topic of the noun sentence is a self-centered and independent constituent, to which its part/side having a certain quality is attached” (Mikami 1953:139). By this characterization, the structural composition of a sentence like (7) is accounted for.

- (7) *Ano hito wa ne ga syoosin-mono da.*  
       that person TOP heart NOM timid-person COP  
       ‘That person is a coward at heart’.

In contrast to the noun sentence, Mikami argues, the verb sentence typically is topicless. Stating that “the typical verb sentence to be called ‘the simple reportive sentence’ is composed without a topic” (Mikami 1953:141), he points out that topicless sentences like (8) are used in a chronological table of Japanese history.

- (8) *Kinmei Tennen no zyuusan-nen, Kudara kara Bukkyoo*  
       Kinmei Emperor GEN 13th-year Kudara from Buddhism  
       *ga denraisita.*  
       NOM was introduced  
       ‘In the 13th year of Emperor Kinmei, Buddhism was introduced from Kudara.’



Mikami thus estimates, in agreement with Sakuma, that the noun/verb sentence distinction is clearly reflected in the structural composition of sentences. To be noted in particular is his view on the relation between the two sentence types and the topic/topicless sentence distinction.

Another notable study of sentence predication type is Kawabata (1976, 2004). Kawabata's theory was constructed independently of Sakuma and Mikami, but he stands on common ground with them in that great importance is attached to the notion of sentence type in conducting a grammatical analysis.

Based on the idea that a sentence corresponds to the structure of judgment, Kawabata recognizes two sentence types, called *keiyōshi-bun* ('adjective sentence') and *dōshi-bun* ('verb sentence'). He adopts the term *keiyōshi-bun* rather than *meishi-bun*, which is used by Mikami. Kawabata entertains the idea that the adjective sentence corresponds directly to the structure of judgment, and hence it is formed by the unification of "the subject term" and "the predicate term", i.e. a two-part structure. For Kawabata, subject is a concept relevant primarily to the adjective sentence.

The verb sentence, on the other hand, is claimed to be the individuation of a state of affairs on the basis of time and space (primarily, time), with the voice/aspect/tense categories represented distinctively in the predicate. He also asserts that the verb sentence has case categories (more specifically, the nominative case, the accusative case, and the dative case), corresponding to the subject in the adjective sentence. In Kawabata's view, the grammatical category of case is proper to the verb sentence.

Although Kawabata does not use the term "topic" in his characterization of the sentence types, we might be allowed to understand that "the subject of the adjective sentence" and "the nominative case of the verb sentence" in his terminology are equivalent to the topic and the subject in the terminology of this chapter.

A linguistic concept similar to the property/event predication distinction, that of "individual-level predication vs. stage-level predication", proposed by Carlson (1977) and Carlson and Pelletier (eds.) (1995), is worthy of mention (cf. Kageyama 2006, 2009). In their research on the semantics of reference, Carlson and others distinguish between "the individual-level reference" and "the stage-level reference" in reference to entities. Take, for instance, the following sentences.

(9) *John knows French.*

(10) *John is smoking.*

The way *John* functions in its reference differs in (9) and (10): in (9) the referent in question is *John* as an individual, while in (10) it is *John* as a manifestation of the individual in a specific time and space.

Corresponding to the difference in the reference of entities, the individual-level predication and the stage-level predication are distinguished as different types of predication. In (9) and (10), "knows French" and "is smoking" function as individual-

level predication and stage-level predication, respectively. Thus, the individual-level/ stage-level predication distinction has much in common with the property/event predication distinction. Nonetheless, their thesis has not delved into the topic/ subject issue so far, as it has not taken languages like Japanese into consideration.

Let us next turn to the second point, i.e. that of the language typology based on the topic/subject distinction. Mikami (1953, 1963, 1970) and Shibatani (1989, 2002), in addition to Matsushita (1928), have presented a notable view on this issue.

Mikami is known to be an advocator of *shugo-hitei-ron* ('the thesis of the denial of subject'). Mikami does not simply deny the existence of subject in Japanese. The point of his thesis is that the sentence structure is "bipartite" in a different sense between Japanese and English: Japanese has a "topic-comment" bipartite structure, while English has a "subject-predicate" bipartite structure.

It is noted that Mikami was conscious of the typological difference between Japanese and English regarding the basic composition of sentences. Stating that Japanese and English exhibit a typological difference in accentuation, i.e. "pitch accent language" vs. "stress accent language", Mikami draws attention to the point that the constructional pattern of sentences is also remarkably different between the two languages. His claim is condensed into the expression "the skeleton of the Japanese sentence is 'T-P' ('Topic-Predicate') and that of the English sentence is 'S-P' ('Subject-Predicate')" (Mikami 1963: preface). Mikami's view is highly evaluated as an early instance of the current typological perspective.

Shibatani (1989, 2002) makes a conceptual distinction between "the topic" in the sense of "subject matter" and "the subject" as characterized by the semantic role of "agent". On this basis, Shibatani maintains that English is a language in which the notions of "subject matter" and "agent" converge on the same grammatical form, i.e. grammatical subject, and that "the generalization of agent in the subject" (that is, noun phrases with various kinds of semantic roles including agent can appear in the subject position) is quite conspicuous. In contrast, he says, Japanese is regarded as a language in which the notions of topic and subject are separated, because the convergence of the notion of subject matter and that of agent is not observed.

Shibatani's idea that English only necessitates the notion of subject, while Japanese necessitates the notion of topic as well as that of subject is basically in accord with Matsushita's (1928) idea, mentioned in 2.1. What makes Shibatani's view distinctive is his prototype theory approach to the notion of subject. Shibatani takes the position that the degree of subject prominence varies across languages: in English the notions of "subject matter" and "agent" converge on the grammatical subject and the generalization of agent is conspicuous, while this is not the case in Japanese. Thus, English is considered to have "the prototype subject", while Japanese subject is non-prototypical.

In relation to the language typology in question, we need to touch on Li and Thompson (1976) as a related proposal in linguistics. Li and Thompson propose the distinction of "the topic-prominent language vs. the subject-prominent language".

Their proposal is an attempt to classify languages according to whether sentences of a given language are framed on the basis of “topic-comment” or “subject-predicate”. Their typological classification resembles Mikami’s “TP/SP” typology. They claim, however, that the topic-prominence property and the subject-prominence property can coexist in a single language, and classify Japanese as a “both topic-prominent and subject-prominent language”. In this respect, their view is similar to Matsushita’s and Shibatani’s idea rather than Mikami’s idea.

Finally, let us take up the issue of (c), the relation between the topic/topicless sentence distinction and the known/unknown distinction. In addition to Matsushita (1928), I would like to refer to Matsumura (1942) and Kuno (1972, 1973).

Matsumura (1942) asserts that when we discuss the problem of whether *wa* or *ga* is to be used to mark the subject, it is necessary to differentiate between *sudeni kotei-shita gainen* (‘previously-fixed notion’; he also uses the term *kichi* ‘known’) and *atarashii gainen* (‘new notion’). He points out that in (11) *wa* is used to treat *ie* ‘house’ as known, while in (12) *ga* is used to express that *ie* is unknown.

- (11) *Tonari no ie wa mada moetei-nai na.*  
 neighboring GEN house TOP yet burning-NEG SFP  
 ‘The house next door has not burned yet.’

- (12) *A, ie ga moeteiru.*  
 oh house NOM burning  
 ‘Oh, the house is burning.’

Examining how *wa* and *ga* are used in dialogue, Matsumura came to the conclusion that the difference between “known to the hearer” and “unknown to the hearer” plays a key role in the usage of *wa/ga*. He cites (13) as a typical example that indicates the relevance of the “known/unknown to the hearer” distinction to the usage of the two particles.

- (13) *Mukasi-mukasi aru tokoro ni oziisan to obaasan*  
 a long time ago a certain place in old man and old woman  
*ga arimasita. Oziisan wa yama e*  
 NOM existed the old man TOP mountain to  
*sibakari ni, obaasan wa kawa e*  
 gathering firewood for the old woman TOP river to  
*sentaku ni ikimasita.*  
 washing for went  
 ‘A long time ago, there lived an old man and an old woman. The old man went to a mountain to gather firewood and the old woman went to a river to do the washing.’

Matsumura (1942) thus is worthy of attention because of his claim that the contrast between old and new information has much relevance to linguistic communication. Incidentally, since Matsumura's concern was with the problem of *wa/ga* marking in the subject, he did not go into the topic/subject issue; neither did he adopt Matsushita's (1928) terminological distinction between *daimokugo* ('topic word') and *shugo* ('subject'), although he referred to Matsushita's description of the usage of *wa/ga*.

Another important study of the issue of (c) is Kuno (1972, 1973). Influenced by the "functional sentence perspective" of the Prague School, Kuno introduced the notion of "old/new information" to explain the usage of *wa/ga*.

Kuno proposed two uses of *wa* and *ga*, respectively. They are "thematic *wa*", "contrastive *wa*", "descriptive *ga*", and "exhaustive-listing *ga*", as shown in (14) through (17).

- (14) [thematic *wa*]      *John wa gakusei desu.*  
                                  student is  
                                  'Speaking of John, he is a student'.
- (15) [contrastive *wa*]      *Ame wa hutte imasu ga...*  
                                  rain      falling is      but  
                                  'It is raining, but...'
- (16) [descriptive *ga*]      *Ame ga hutte imasu.*  
                                  rain      falling is  
                                  'It is raining.'
- (17) [exhaustive-listing *ga*]      *John ga gakusei desu.*  
                                  student is  
                                  '(Of all the people under discussion) John (and only John) is a student'.

Kuno points out that thematic *wa* conveys old information, commenting that "the themes of Japanese sentences, as in English sentences, must be either generic or anaphoric" (Kuno 1973: 44). In contrast, descriptive *ga* and exhaustive-listing *ga* both convey new information: "what is common between the *ga* for neutral description and the *ga* for exhaustive listing is that, in both cases, the subject conveys new information" (Kuno 1972: 272).

The notion of "old/new information" has been discussed extensively since the appearance of the theory of information structure. In the theory of information structure, which emphasizes the communicative functions of linguistic expressions, the notions of "topic" and "focus" occupy an important position. In that theory, the topic and the focus are thought of as constituting the old/new information contrast (cf. Lambrecht 1994, Erteschik-Shir 2006, Heycock 2008).

### 3 Remarks

In this section, I will address some remarks on the following three issues, surveyed in section 2: (a) the property/event predication distinction and its relevance to the topic/subject issue, (b) the language typology based on the topic/subject distinction, and (c) the relation between the topic/topicless sentence distinction and the known/unknown distinction. For expository purposes, I discuss (a) and (b) in 3.1, in the way that they are interrelated. Then I come to grips with (c) in 3.2.<sup>2</sup>

#### 3.1 Predication type and language typology

##### 3.1.1 Predication type and the topic/subject issue

I would like to begin by examining the relation between the predication types and the topic/subject issue. Research in linguistics generally concentrates on the analysis of the event sentence, i.e. the verb-predicate sentence, without showing much interest in the noun-predicate sentence. So it would be appropriate to start with the event predication.

The event predication is the description of an event that occurs in a specific time and place. What props up the event predication sentence is the predicate that determines the event type, a verb being the core of the predicate. The representative event predication sentence, therefore, is a verb-predicate sentence like (18).

- (18) *Kodomo ga nikkori waratta.*  
 child NOM broadly smiled  
 ‘The child smiled broadly.’

The event predication sentence is composed of the head and its dependents. The head is the predicate that determines the frame of a sentence. Among the dependents, the one that complements the predicate is the argument. In (18), the phrase *kodomo ga* functions as an argument of the predicate *warau* ‘smile’. Another type of dependent is the adjunct, which is used to detail a description concerned. In (18), *nikkori* functions as an adjunct of the predicate. The event predication sentence thus has an endocentric structure, in which the predicate is the head, and the argument(s) and the adjunct(s) are its dependents.

Since arguments are indispensable constituents, the core of the event predication sentence is a composite of the predicate and its argument(s), called “the argument structure”. How many (and what types of) arguments are required in a given

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<sup>2</sup> The remarks presented in section 3 are based on Masuoka (1987, 2004, 2008, 2013). For details, see those references.

structure is determined by each individual predicate. For instance, *warau* ‘smile’ takes one argument, *sodateru* ‘raise’ two arguments, and *watasu* ‘hand’ three arguments, as illustrated below.

- (19) *Kodomo ga waratta.*  
 child NOM smiled  
 ‘The child smiled.’
- (20) *Kodomo ga hana o sodateta.*  
 child NOM flower ACC raised  
 ‘The child raised flowers.’
- (21) *Oya ga kodomo ni kagi o watasita.*  
 parent NOM child DAT key ACC handed  
 ‘The parent handed a key to his/her child.’

To add a word, the event predication characteristically calls for the notion of temporality and spatiality. Particularly important is the notion of temporality. Hence, the grammatical category of “tense” is crucial to the event predication, and in the case of dynamic events, the grammatical category of “aspect” is relevant as well.

Concerning argument phrases appearing in the event predication sentence, the grammatical category of “case” comes into play, which represents the relation of a given argument to its predicate. In (21), for instance, the nominative case, the dative case, and the accusative case are respectively assigned to the three arguments *oya*, *kodomo*, and *kagi*. Furthermore, as described in the introduction, there is a difference in superiority among arguments taken by a predicate, and so, grammatical relations such as subject and object are acknowledged on the basis of that difference. Subject, for example, is considered to be the most superior argument. One of the points of this chapter is that the notion of subject derives from the composition of the event predication sentence, that is, this notion is called for as an intrinsic part of the event predication.

On the assumption that there is a grammatical relation of subject, the grammatical category of “voice” e.g. the passive voice, can be thereby defined. The passive sentence, for example, is defined such that the subject of the corresponding active sentence bears a grammatical relation other than subject, as exemplified in (22).

- (22) *Kodomo ga oya kara kagi o watas-are-ta.*  
 child NOM parent ABL key ACC hand-PASS-PST  
 ‘The child was handed a key by his/her parent.’

In this sentence, *oya*, the subject of the corresponding active sentence, is marked by *kara*, which represents a “source” relation to the passive predicate *watasareta* ‘was handed’.

Next, let us consider the property predication, which has not been discussed at length in the linguistics literature. The property predication is conceived of as attributing a constant property to a given entity, as in (23).

- (23) *Nihon wa yamaguni da.*  
 Japan TOP mountainous country COP  
 ‘Japan is a mountainous country.’

In (23), the constant property of “being a mountainous country” is attributed to the entity *Japan*. To put it another way, the entity *Japan* is construed as belonging to the category “mountainous country”. Let us call the property of this type “the property of category”. Predicating the property of category is representative of the property predication,<sup>3</sup> which means that the representative property predication sentence is a noun-predicate sentence like (23). The view that the noun-predicate sentence and the verb-predicate sentence are respectively typical of the property predication sentence and the event predication sentence is in line with Mikami’s (1953) idea that the basic contrast in the relevant sentence type is that of “the noun sentence vs. the verb sentence”.

A notable feature of the property predication is the mutual-dependency relation that holds between a given entity and its property: the property in question requires the existence of an entity to which it is attributed, while the given entity requires the existence of a property to be attributed. Reflecting this mutual-dependency relation, the property predication sentence is composed of the part representing the entity to be predicated of and the part representing its property, i.e. the “bipartite structure” sentence in Mikami’s (1970) terminology, and the sentence formed by “the unification of the subject term and the predicate term” in Kawabata’s (1976, 2004) terminology.

With respect to the property predication sentence, it is not appropriate to say that the predicate is the head of the sentence. If we dare to use the notion of “head”, both the entity part and the property part are thought of as the heads of the sentence. I thus contend that different from the event predication sentence, which has an endocentric structure, the property predication sentence has an exocentric structure, in which the relevant parts are connected in such a way that they are mutually dependent.

Reflecting the mutual-dependency relation between the two parts, the property predication sentence takes the following form.

- (24) [topic (the entity part) + comment (the property part)]

In the case of (23), for example, the entity part manifests itself as *nihon wa*, with the topic particle *wa*, and the property part *yamaguni da* follows it as a comment. The

<sup>3</sup> Besides “the property of category”, we may allow for “the property of simple possession” and “the property of past record”. See Masuoka (2004, 2008, 2013) for details.

property predication conceptually presupposes the existence of an entity, and that entity is expressed as the topic of the sentence concerned since the sentence is “about” that entity.

A sentence like (25), which is often discussed under the heading of “the double-subject sentence”, also takes the form of (24).<sup>4</sup>

- (25) *Zoo wa hana ga nagai.*  
 elephants TOP trunk NOM long  
 ‘As for elephants, their trunks are long.’

In (25), the topic *zoo wa* represents the entity to be predicated of, and the comment *hana ga nagai* represents a property attributed to that entity.

I thus conceive that the notion of topic derives from the essential characteristic of the property predication. In other words, the notion of topic is called for as an intrinsic part of the property predication, and hence the topic of the property predication sentence can be characterized as “the topic that is motivated sentence-internally”.

In relation to the topic status in the property predication, a word is in order about the relevance of the notion of topic to the event predication. The event predication differs from the property predication in that it does not intrinsically require the existence of a topic. However, there are cases in which a topic is necessitated by a sentence-external factor. That is, if a given context requires a specific argument of the predicate to function as the topic of the sentence, that argument is realized as a topic. This is exemplified by (26), where (*sono*) *kodomo* is presented as a topic so that the predicate part can make a comment on it.

- (26) (*Sono*) *kodomo wa nikkori waratta.*  
 the child TOP broadly smiled  
 ‘The child smiled broadly.’

When an argument is realized as the topic of a given sentence, we may handle it as “topicalization of an argument”. The topic in an event predication sentence like (26) can be construed as “the topic that is motivated sentence-externally” in the sense that it is called for by the context concerned.

Now let us summarize the discussion of the relation between the predication types and the topic/subject issue. The notion of topic is ascribed to the property predication. That is, the notion derives from the function of property attribution. Property attribution is accomplished by the topic-comment combination, where

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<sup>4</sup> The existence of this type of sentence was first pointed out by Kusano (1901). The example (7), mentioned above, is a sentence of the same type.



the topic represents the entity to be predicated of and the comment represents its property.<sup>5</sup>

The notion of subject, on the other hand, is defined on the basis of the grammatical characteristic of the event predication. When a predicate takes more than one argument, they are not equal in superiority. For instance, the three arguments *oya* (*ga*), *kodomo* (*ni*), and *kagi* (*o*) in the sentence *oya ga kodomo ni kagi o watasita* ‘the parent handed a key to his/her child’ are different in superiority. Subject is defined as the most superior argument, i.e. the primary argument, of a given predicate. Subject and object are said to be representative grammatical relations relevant to grammatical description.

Incidentally, numerous Japanese grammarians and linguists, such as Mikami (1953, 1970), Harada (1973), Shibatani (1978, 1985), Onoe (2004), and Tsunoda (2009), have pointed out that arguments taken by a predicate exhibit a difference in superiority. They disagree as to whether the notion of subject should be acknowledged or not: Mikami takes a negative stance on this issue, while Harada and others take a positive stance. This topic will be taken up in 3.1.2.

Based on the above discussion, I now turn to the issue of (b), the language typology in relation to the topic/subject distinction. As surveyed in 2.2, a noteworthy idea as to the relevant typology is Li and Thompson’s (1976) “topic-prominent language vs. subject-prominent language” distinction. Here I propose a somewhat modified version of this distinction.

I consider Japanese to be a topic-prominent language, with the “topic-comment” bipartite structure of the property predication sentence forming the basis of sentence composition. To put it another way, the basic composition of the property predication sentence is extended or generalized to the event predication sentence, with the result that an argument of the event predication sentence can be realized as a topic, as pointed out above in reference to (26). Another example of topicalization of an argument is (27).

- (27) *Watasi wa kesa roku-zi ni me o samasita.*  
 I TOP this morning six o'clock at eye ACC awoke  
 ‘I woke up at 6 this morning.’

A notable construction called “double-subject sentence” like (25) above, which is common in the property predication, is also extended to the event predication, thereby producing a sentence like (28).<sup>6</sup>

<sup>5</sup> Occurrence of topics in subordinate clauses is severely restricted, but I do not go into discussion of this issue.

<sup>6</sup> Strict semantic conditions are imposed on the double-subject sentence of the event predication type. See Masuoka (1987:61–70) for a discussion of this issue.

- (28) *Hanako wa musume ga zyozi o syussansita.*  
 Hanako TOP daughter NOM girl ACC gave birth to  
 ‘As for Hanako, her daughter gave birth to a girl.’ (Masuoka 1987:70)

There are cases, however, in which event predication sentences lack a topic, as in (18) and (29), hence yielding the topic/topicless sentence distinction in the event predication.

- (18) *Kodomo ga nikkori waratta.*  
 child NOM broadly smiled  
 ‘The child smiled broadly.’

- (29) *Kodomo ga roku-zi ni me o samasita.*  
 child NOM six o'clock at eye ACC awoke  
 ‘The child woke up at 6.’

The event predication sentence goes without a topic in case it describes “an external event” (an event observed objectively). “An internal event” (an event expressing an experience of the subject concerned) such as (27), on the other hand, manifests itself as a topic sentence.<sup>7</sup> This point will be discussed in 3.2.

In Japanese, a topic-prominent language, a topic appears overtly in a sentence. The topic in Japanese shows up explicitly: it takes a marker like *wa* and basically is placed in the sentence initial position. If we refer to the topic of this type as “prototype topic”, Japanese can be said to have the prototype topic in this sense. Experience indicates that it is not difficult to identify a topic in a given sentence.

Incidentally, the idea that the basic composition of Japanese sentences is molded on that of the property predication sentence is also found in Kawabata’s (1976, 2004) view. As surveyed in 2.2, Kawabata contends that the sentence corresponds to judgment and that the adjective sentence, which corresponds directly to judgment, determines the basic structure of a sentence. In Kawabata’s view, it is not only that the adjective sentence and the verb sentence are distinguished, but also that the structure of the verb sentence is characterized on the basis of that of the adjective sentence.

In contrast to Japanese, English is a subject-prominent language. In subject-prominent languages like English, the basic composition of sentences is considered to be molded on that of the event predication sentence. To put it differently, the basic composition of the event predication sentence is extended or generalized to the property predication sentence, and so the entity being predicated of in property predication is realized as a subject, modeled on the argument realization of the event predication sentence.

<sup>7</sup> It is to be noted that an external event sentence can be realized as a topic sentence in a certain context, as in (26).

Thus, the subject-prominent language is endowed with a mechanism to have a subject in the composition of sentences. Due to this “inclination toward a subject sentence (a sentence with a subject)”, subject sentences form the majority, while subjectless sentences are in the minority. English seems to be particularly conspicuous in the inclination toward a subject sentence. The fact that the “subject-predicate” form is maintained by means of formal elements like “expletive *it*” is symbolic of this characteristic of English.

In English, a subject appears overtly in a sentence. The subject in English shows up quite explicitly: in the basic word order, the subject is placed in the initial position, and morphologically the subject agrees with the predicate in finite clauses. In relation to word order, subject-auxiliary inversion also plays a role in giving an overt status to the subject in English.

While the entity being predicated of in property predication is explicitly realized as a subject, the construction called “double-subject sentence”, such as (25) and (28) above, is not found in English. This is attributable to the characteristic of the subject-prominent language like English, which does not have a topic-comment structure as the basic sentence composition (cf. Li and Thompson 1976). As mentioned in 2.2, English is considered to have “the prototype subject”, and hence it is quite easy to identify a subject in a given English sentence.

### 3.1.2 The overtness/covertness of topic and subject

In 3.1.1, it was stated that Japanese and English sharply contrast in that they are a typical topic-prominent language and a typical subject-prominent language, respectively. This does not mean, however, that the notion of subject is unnecessary for a topic-prominent language like Japanese, or that the notion of topic is unnecessary for a subject-prominent language like English. It will be shown below how the notion of subject is relevant to Japanese and that of topic is relevant to English.

Let us begin with Japanese. Mikami (1953, 1970) addressed the issue of the subject status in Japanese and advanced his *shugo-hitei-ron* (‘the thesis of the denial of subject’). As described in 2.2, Mikami’s thesis was based on a typological linguistic point of view, more specifically, on an observation of the typological difference between Japanese and English. Harada (1973), Shibatani (1978, 1985), Kuroda (1988), Onoe (2004), Tsunoda (2009), Kishimoto (2010), and others, as opposed to Mikami, have presented the thesis which acknowledges the notion of subject. Among them, Harada (1973) and Shibatani (1978, 1985) are direct arguments against Mikami’s view.

Although Mikami and the other linguists like Harada disagree as to whether the notion of subject is feasible for Japanese or not, a detailed examination of their factual observations reveals that their views do not conflict substantially. They share the view on the event predication sentence that there is a difference in superiority among arguments taken by a predicate. The points of departure are: (i) how the

notion of case like nominative and dative concerns the issue of the acknowledgement of subject, and (ii) how the structural position of the subject is specified.

With respect to the first issue, Mikami imposed a strict restriction to the effect that only nominative case is relevant to the notion of subject. Harada (1973), Shibatani (1978, 1985), Tsunoda (2009), and Kishimoto (2010), on the other hand, do not impose such a restriction and allow for the dative subject and the like, in addition to the nominative subject.

Based on an observation of grammatical phenomena like honorification, Mikami pointed out that arguments taken by a predicate vary in their superiority. Examples of the honorification phenomena that he took notice of are the following.

- (30) *Sensei wa ookuno tyosyo o o-motida.*  
 teacher TOP many book ACC HON-have  
 ‘The teacher has many books.’
- (31) *Sensei ni wa ookuno tyosyo ga o-arida.*  
 teacher LOC TOP many book NOM HON-exist  
 ‘The teacher has many books.’

In (30), the honorific form *o-motida* in the predicate is targeted at the nominative *sensei (ga)* (the topic *sensei wa* is thought of as bearing a nominative case relation to the predicate). In (31), on the other hand, the target of the honorific form *o-arida* is the locative *sensei ni* (he uses the term “locative case” instead of the more common term “dative case”). Mikami utilizes the observation that the locative as well as the nominative can be the target of honorification as evidence in favor of his thesis of the denial of subject.

In contrast, Harada (1973), Shibatani (1978, 1985), and others regard the observed facts about honorification as evidence that the dative, like *sensei ni* in (31), is to be acknowledged as a subject (“the dative subject”) just as the nominative, like *sensei (ga)* in (30), is a subject (“the nominative subject”).

As for the second issue above, how the structural position of the subject is specified, it is noted that Mikami (1953, 1970) proposed a hierarchical sentence structure. Mikami (1970: 37–38) is especially worthy of notice in that tree diagrams as used in generative grammar at that time were utilized to represent the hierarchical structure. As an example of the hierarchical structure representation, he gave the sentence *Taroo ga Ziroo ni hon o kasita* ‘Taro lent a book to Ziro’, where the nominative *Taroo ga* is the primary argument. For this sentence he proposed a hierarchical structure in which the accusative *hon o* ‘book ACC’ and the verb *kasu* ‘lend’ make up a low level VP, the dative *Ziroo ni* ‘Ziro DAT’ and the low VP make up an intermediate level VP, and *Taroo ga* ‘Taro NOM’ and the intermediate VP make up a high level VP. Another example sentence given by Mikami is *watasi ni musume ga aru* ‘I have a daughter’, where the dative (“locative” in Mikami’s terminology) *watasi ni* ‘I DAT/LOC’ is taken

to be the primary argument. For this sentence, Mikami proposed a hierarchical structure in which the nominative *musume ga* ‘daughter NOM’ and the verb *aru* ‘exist’ make up a low level VP, and the dative/locative *watasi ni* ‘I DAT/LOC’ and the low VP make up a high level VP.

Under that proposal, Mikami contends that the superiority of the nominative like *Taroo ga* and the dative/locative like *watasi ni* in the above examples is restricted inside the domain of VP, and that the necessary condition for an NP to qualify as a subject is that the NP concerned is positioned outside the VP and forms an exocentric bipartite structure. This is the point of his thesis of the denial of subject.<sup>8</sup>

Notice that Mikami takes a different stance from Matsushita (1928) in the characterization of the notion of subject. As reviewed in 2.1, Matsushita (1928) pointed out that the predicate and the subject in a sentence are in a “government-dependence relation” – more precisely, a head-complement relation. To put it in the current linguistic terminology, Matsushita regarded the subject as an argument of the predicate. It can further be said that Matsushita’s view on the notion of subject is basically in agreement with “the VP-internal subject hypothesis”, advanced by Kuroda (1988) and others.

Thus, I would emphasize that, although Matsushita and Mikami had different views as to whether the notion of subject is feasible for Japanese, they both came up with the idea of the relative superiority of the arguments of a predicate, prefiguring the VP-internal subject hypothesis. As far as the substance of the relevant observations is concerned, Matsushita, Mikami, and Kuroda can be grouped as a single school of thought.<sup>9</sup>

In view of the foregoing observation, I acknowledge the notion of subject in Japanese, with the proviso that, while topics are overtly expressed in Japanese, subjects behave only covertly. As mentioned in 3.1.1, topics in Japanese take the topic marker *wa* and are placed in the initial position of the basic word order; hence, they are directly accessible in the outer forms. Subjects in Japanese, on the other hand, are not directly accessible, to be acknowledged only in terms of their behavior in grammatical phenomena like honorification.<sup>10</sup>

<sup>8</sup> Mikami’s thesis is also related to the problem of the finiteness/non-finiteness of predicates, but I do not enter into this problem.

<sup>9</sup> Different from the VP-internal subject hypothesis, Kishimoto (2010) argues that subjects in Japanese take a position outside the VP just like subjects in English. This view is in marked contrast to Mikami’s idea in that it acknowledges the “subject-predicate” bipartite structure for Japanese as well as English.

It is noted further that different from Mikami, who presumably considered the “subject-predicate” bipartite structure to be an exocentric structure, Kishimoto (2010) should think that the subject and the predicate constitute an endocentric structure in which the subject occupies the specifier position of the IP.

Much remains to be examined to resolve the problem of the structural position of subject, and for that matter, that of the structural position of topic (cf. Kishimoto 2007).

<sup>10</sup> The entity being predicated of in property predication, which is realized as a topic, also counts as subject in view of its behavior in grammatical phenomena like honorification.

If we adopt Shibatani's (1989, 2002) term "the prototype subject" to characterize the subject in English, we may say that the subject in Japanese is non-prototypical. As a matter of fact, in Japanese it is often difficult to judge whether a given phrase is a subject or not, which, coupled with other factors, has caused a great controversy over the notion of subject.

The opposite of Japanese is English. That is, in English subjects are expressed overtly: they are placed in the initial position of the basic word order, they agree with predicates in finite clauses, and subject-auxiliary inversion is very common.

Topics, on the other hand, behave covertly in English. There are some marked constructions which specifically signal the presence of a topic or the lack thereof. For example, the construction called a "left-dislocation sentence" is considered to have a function of topicalizing a phrase by putting it in the dislocated position, as exemplified in (32).<sup>11</sup>

(32) *John, he is a genius.*

Also, the construction called a "presentation sentence", which has a marked word order as shown in (33), is taken to be a topicless sentence.<sup>12</sup>

(33) *Round the bend came the train.*

Except for these grammatical constructions, however, topics are not directly accessible in English. So, if we posit the concept of "prototype topic", a counterpart of Shibatani's (1989, 2002) "prototype subject", we may say that Japanese has a prototype topic, while the topic in English is non-prototypical. As a matter of fact, in English it is often difficult to judge whether a given phrase is a topic or not, as is the case with *John* in the sentence "John is smoking" (the example (10) above). Thus, the topic in English did not receive a full-scale investigation until the appearance of the theory of information structure, in contrast to the topic in Japanese, which has been extensively studied by many grammarians and linguists.

Let us now summarize what we have seen above. A topic-prominent language is characterized as a language in which topics are realized overtly as a prototype topic, subjects being covert and non-prototypical. A subject-prominent language, on the other hand, is characterized as a language in which subjects show up overtly as a prototype subject, topics being covert and non-prototypical. The point is that

<sup>11</sup> For discussions of this issue, see Kuno (1972), Reinhart (1982), Lambrecht (1994), and Gundel and Fretheim (2004). The sentence in (32) is taken from Kuno (1972:298). Incidentally, French, which is considered to be a subject-prominent language, seems to make frequent use of the left-dislocation sentence in colloquial speech (cf. De Cat 2007).

<sup>12</sup> See Kuno (1972) and Hasegawa (2010) for details. The sentence in (33) is taken from Kuno (1972:299).

the notion of topic and that of subject are not mutually exclusive in a language, but that they behave either overtly or covertly. Also, there could be another type of language, in which both topics and subjects are expressed overtly. Much remains to be done to substantiate the idea of the overtness/covertiness of topic and subject.

### 3.2 The functional/cognitive approach to topic

Lastly, I would like to reconsider the issue (c) of 2.2, the relation between the topic/topicless sentence distinction and the known/unknown distinction. In relation to this issue, I touched on Matsushita's (1928) view in 2.1. There, I focused a spotlight on the side of the known/unknown distinction, since in the linguistics literature the notion of topic is generally discussed from the viewpoint of oldness/newness of information with emphasis on its relation to the notion of focus. Actually, depicting Matsushita's (1928) view that way is one-sided.

In discussing the notion of topic, Matsushita took notice of its relevance to cognition ("judgment in thinking", in his words) as well as its communicative function. Maintaining that a topic sentence connects an entity and a specific judgment, he called attention to the cognitive aspect of the notion of topic. According to Matsushita (1928:713), the topic sentence *sakura no hana wa sigatu no hazime ni sakimasu* 'cherry blossoms bloom in the beginning of April', given above as (3) in 2.1, can be analyzed in such a way that "the notion *sakura no hana* ('cherry blossoms') is judged by means of the notion *sigatu no hazime ni sakimasu* ('bloom in the beginning of April')".

After Matsushita, the communicative aspect and the cognitive aspect of the notion of topic have generally been discussed separately. For instance, Matsumura (1942) was concerned with the communicative aspect, as described in 2.2. Mio (1948), published in the same period, proposed a sentence type distinction called *handan-bun* ('judgment sentence') vs. *genshō-bun* ('phenomenon sentence'), focusing on the cognitive aspect of the notion of topic. Another instance was Kuno (1972, 1973), also mentioned in 2.2, which was an attempt to explicate the communicative aspect of the notion of topic under the functional sentence perspective. Kuroda (1972), on the other hand, proposed a cognitively-based concept of the "categorical judgment vs.thetic judgment" distinction on the basis of the judgment theory of the German philosophers Franz Brentano and Anton Marty. Here, a word is in order about Mio's (1948) and Kuroda's (1972, 2005) view.

Mio (1948) put forward the idea of distinguishing two types of sentence, i.e. *handan-bun* ('judgment sentence') and *genshō-bun* ('phenomenon sentence'), under the influence of Matsushita. According to Mio, the judgment sentence takes a topic-comment structure, where "the topic is a problem to be solved" and "the comment is a solution to that problem". For example, "in the judgment sentence *neesan wa gakkō e ikimasita* 'The elder sister went to school', *neesan wa* 'elder sister TOP'

represents a problem such as where the elder sister went or where she is, and *gakkoo e ikimasita* ‘school to went’ represents a solution to the problem” (Mio 1948:88).

The phenomenon sentence, on the other hand, is characterized as “the sentence that describes an event as it is” (Mio 1948:83). It is realized as a topicless sentence, as exemplified by the sentence *ame ga hutteru* ‘it is raining’, in which “*ame ga* ‘rain NOM’ is not a topic, *hutteru* ‘is raining’ does not provide a solution to a problem, nor is recognized a topic-comment unification based on subjective judgment” (Mio 1948:88). He thus made a clear distinction between the judgment sentence and the phenomenon sentence, which manifest themselves distinctively as a topic sentence and a topicless sentence.

Similar to Mio’s “judgment/phenomenon sentence” distinction is Kuroda’s (1972, 2005) “categorical/thetic judgment” distinction. Independently of Matsushita/Mio’s line of research, Kuroda, exploring the problem of the usage of *wa/ga*, proposed to account for the *wa/ga* distinction in terms of the categorical/thetic judgment distinction, founded on the ideas of Brentano and Marty.

Kuroda (1972: 8–11) explained the difference between the two types of judgment by way of the categorical judgment sentence *inu wa hasitteiru* ‘dog TOP is running’ (‘the dog is running’) and the thetic judgment sentence *inu ga hasitteiru* ‘dog NOM is running’ (‘a dog is running’). He points out that in the former sentence, the speaker’s interest is directed toward a definite dog and a specific event is related to that dog, while the latter sentence is a simple description of an observed event. Although Kuroda did not use the term “topic”, the categorical judgment sentence and the thetic judgment sentence can be interpreted as a topic sentence and a topicless sentence, respectively. Note that while Mio attributes the topic/topicless contrast to the presence/absence of judgment, Kuroda attributes it to the difference between judgment types.

Regarding the relation between the sentence type distinction proposed by Mio/Kuroda and the sentence classification on the basis of the predication type, mentioned earlier in 2.2 and 3.1, it can be said that the property predication sentence is a judgment sentence (categorical judgment sentence) and that the event predication sentence is either a phenomenon sentence (thetic judgment sentence) or a judgment sentence (categorical judgment sentence), depending on whether it is a topicless sentence or a topic sentence. So, we need to differentiate Mio/Kuroda’s judgment theory and the predication type theory. The point is that while the property predication sentence is a judgment sentence (categorical judgment sentence), the event predication sentence is not necessarily a phenomenon sentence (thetic judgment sentence) (cf. Sasse 1987, Kageyama 2009).

I would like to recapitulate how I conceptualize the notion of topic. As described in 3.1.1, the notion of topic has its source in the composition of property predication. That is, the “topic-comment” bipartite structure reflects the intrinsic feature of property attribution. This view bears a similarity to Kawabata’s (1976, 2004) claim, surveyed in 2.2, that the sentence type directly corresponding to judgment is “the adjective



sentence”, which is composed of the subject (“the topic” in our terminology) and the predicate.

In the property predication, the entity being predicated of is established prior to predication; in other words, the existence of a specific entity is presupposed in the predication concerned. Let us call this characteristic “given”. Although the concept of “given” is not necessarily uniform among linguists, I use this term to mean that the existence of an entity is determined. Matsushita’s (1928) concept of *kitei* (‘determined’) is understood as indicating “given” in this sense. The concept of “given”, thus, is associated with the topic of the property predication sentence, but since the notion of topic is extended and generalized to the event predication, “givenness” also applies to the topic of the event predication sentence.

In the current studies of information structure, the notion of topic is discussed in relation to that of focus from the perspective of the oldness/newness of information. Different from that viewpoint, I attribute the notion of topic to the inherent characteristic of property predication. The concept of “given” is also construed as attributable to the nature of the entity being predicated of in property predication. That is, the notion of topic is not directly associated with the discourse context but rather is characterized in terms of the mode of judgment, which means that importance is attached more to the cognitive aspect of the topic than to its communicative aspect.

Let us now summarize what we have seen in 3.2. In the discussion of the notion of topic, both the aspect of communicative function and that of cognitive meaning come into view; the idea of “language as communication” and that of “language as thought” are compatible. On that assumption, we may ask which aspect is more important for the topic in Japanese. The answer to that question would be that for the topic in Japanese, the cognitive aspect is of more significance than the communicative aspect, as argued by Mio and Kuroda; hence, we may say that the cognitive approach is more appropriate than the functional approach for the characterization of the topic in Japanese.

Linguistic research as represented by the theory of information structure generally approaches the issue of topic from the perspective of communicative function, taking its relation to the issue of focus into account. Under such circumstances, the judgment theoretic conception proposed by Mio and Kuroda provides a significant viewpoint for the linguistic investigation of the notion of topic (cf. Shibatani 1989).

## 4 Conclusion

The present chapter aimed to provide an overview of previous research on the topic and the subject in Japanese and to present some remarks on the topic/subject issue, based on that overview. The key concept in the remarks presented in section 3 was “predication type”, which originates in the traditional studies of Japanese grammar.

The main points of the remarks in section 3 are the following.

- (i) A topic-prominent language like Japanese and a subject-prominent language like English base the architecture of sentences on the property predication and the event predication, respectively. Also, the notions of topic and subject derive from the inherent characteristics of the two predication types.
- (ii) The notion of topic and that of subject are not mutually exclusive in a language; the covert subject and the covert topic are respectively allowed for in Japanese and English.
- (iii) The notion of topic is associated with the aspect of communicative function and that of cognitive meaning; for the topic in Japanese, the cognitive aspect is more significant than the communicative aspect.

In this chapter, I have explored the possibility of building a bridge between the research by the traditional Japanese grammarians such as Matsushita, Sakuma, Mikami, Mio, and Kawabata, on the one hand, and current linguistic research on Japanese, on the other. Although the traditional research results, with the exception of Mikami, are rarely cited in the current studies of Japanese linguistics,<sup>13,14</sup> there can be numerous points of contact between the traditional grammatical research and the current issues of Japanese linguistics, including the topic/subject issue. It is hoped that the domestic studies of Japanese grammar will contribute to the development of linguistic investigation through exchanges with the linguistic research conducted in the world.

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<sup>13</sup> Mikami's view became known to linguists through Kuno (1973) and Shibatani (1978), among others.

<sup>14</sup> Shibatani (1990) is a valuable reference which contains a detailed description of the traditional studies of the Japanese language.

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## 4 *Toritate*: Focusing and defocusing of words, phrases, and clauses

### 1 Introduction

This section explains what *toritate* is and the importance of its study.

#### 1.1 What is toritate?

Toritate refers to the function of focusing a word, phrase, or clause, indicating, “this is all there is” or “everything else is different” or of defocusing to indicate, “this is not all there is” or “there are also others that are the same”. It is the sort of function born in English by such words as “only”, “even”, or “too”.

(1a) is a sentence in which no toritate has taken place. (1b) is a sentence in which *dake* ‘only’ has been added to *tanosikatta koto* ‘things that were enjoyable’, focusing the *tanosikatta koto*. (1a) only shows that what someone being urged to recall are “things that were enjoyable”. There is no implication concerning other things like, “Do not recall things that were sad”. In contrast, (1b), thanks to the *dake* ‘only’, limits the things one is being urged to recall to *tanosikatta koto*. This implies that one is being urged not to recall, for example, things that were sad.

- (1) a. *Tanosikatta koto o omoidasite kudasai.*  
pleasant.PST things ACC recall.GER please  
‘Please recall pleasant things.’
- b. *Tanosikatta koto dake o omoidasite kudasai.*  
pleasant.PST things only ACC recall.GER please  
‘Please recall only pleasant things.’

(2a) is also a sentence in which no toritate has taken place. (2b) is a sentence in which the toritate particle *demo* ‘even if it is’ has been added to *doonatsu o* [donuts ACC], defocusing *doonatsu o*. (2a) simply shows that “donuts” are what someone is being asked to buy. There is no implication that buying something other than “donuts”, say, “a pie” or “a hamburger”, would also be acceptable. (2b), thanks to the *demo*, shows that what someone is being asked to buy is not limited to “donuts”. This states that not buying “donuts” but instead buying, say, “a pie” or “a hamburger” would also be acceptable.

- (2) a. *Doonatu o katte kite.*  
 donuts ACC buy.GER come.GER  
 ‘(Please) go get some donuts.’
- b. *Doonatu demo katte kite.*  
 donuts even.if.it.is buy.GER come.GER  
 ‘(Please) go get some donuts or something.’

## 1.2 The importance of studying toritate

Studies of Japanese grammar, like studies of the grammars of other languages, have concentrated on the elements thought to be essential for sentence structure, such as studies on case, voice, tense, or the like.

Such elements are essential to sentence formation. For example, (3a) with the past tense *ta* is an acceptable sentence. However, if one removed the past tense *ta* from (3a) and made the tense non-past as in (3b), it would not be an acceptable sentence. Studies of such elements that are considered essential to the well-formedness of a sentence have a long history.

- (3) a. *Kinoo kare kara meeru ga todoita.*  
 yesterday he from email NOM arrive.PST  
 ‘An email from him arrived yesterday.’
- b. \**Kinoo kare kara meeru ga todoku.*  
 yesterday he from email NOM arrive.NONPST  
 ‘An email from him arrives yesterday.’

Compared to these, research into elements not considered essential to the structure of a sentence, such as adverbs, sentence-final particles, and toritate, has not been at the center of studies of grammar.

For example, if one removes the adverb *hakkiri* ‘clearly’ from (4a) to form (4b), while the meaning may change somewhat, there is no change in the well-formedness of the sentence. Research into elements like these that are not considered essential to the formation of a sentence is comparatively lagging.

- (4) a. *Kanozyo wa “sore de ii” to hakkiri itta.*  
 she TOP that be.GER good.NONPST QUOT clearly say.PST  
 ‘She said clearly, “That’s enough.”’
- b. *Kanozyo wa “sore de ii” to itta.*  
 she TOP that be.GER good.NONPST QUOT say.PST  
 ‘She said, “That’s enough.”’

Toritate is something not considered essential to sentence formation. In fact, (1a), from which the toritate particle *dake*, which shows a restriction, has been removed from (1b), is a well-formed sentence. (2a), from which the toritate particle *demo*, which shows a lack of a restriction, has been removed from (2b), is also a well-formed sentence.

Research on toritate has thus lagged behind, but for the reasons in (5) through (7), such research is of great importance.

- (5) Toritate is an element with a limited number of forms and strong grammatical characteristics. It does not show the diversity of meaning found with adverbs, which have a great many forms and strong lexical characteristics. Thus, the meanings shown by toritate can be systematized, as will be described in detail in section 4. In this sense, toritate is an excellent means for considering systematically the meanings shown by grammatical forms.
- (6) The forms showing toritate differ greatly in their grammatical characteristics depending on their form, unlike nouns or adjectives. They differ in what elements in a sentence they can attach to depending on their form. The fact that forms have constraints on the predicates with which they can co-occur is deeply related to the layered structure of sentences, as described in detail in section 5. Thus, toritate is an excellent tool for considering sentence structure.
- (7) Japanese can be considered a language in which toritate is particularly well developed. Toritate elements like *dake* or “only” that show restriction and elements like *mo* or “even” that show similarity are found and used in many languages. However, there are many languages in which toritate elements like *demo* showing non-restriction are realized by forms that cannot be called toritate elements like “or something” or in which a toritate element like *wa* showing contrast is realized by word order, placing the element at the beginning of the sentence. Thus, studies on toritate in languages other than Japanese are commonly even further behind than studies of toritate in Japanese. Conducting research on toritate in Japanese, in which toritate is well developed, can provide major stimulus to studies of toritate in other languages as well.

## 2 An overview of toritate

This section provides an overview of toritate from the view of morphology, semantics, and syntax.

### 2.1 Morphology of toritate

Toritate is primarily shown by toritate particles (*toritate-joshi*) in Japanese. Among the toritate particles, there are some like *dake* in (8a) that are attached after a

noun, but the majority of toritate particles attach to a noun phrase consisting of a noun and a case particle, as does the *mo* in (8b).

- (8) a. *Yamada-san dake ga ansyoobangoo o sitte iru.*  
 Yamada-Ms only NOM password.number ACC know.GER be,NONPST  
 ‘Only Ms Yamada knows the password number.’
- b. *Yamada-san ni mo ansyoobangoo o osieta.*  
 Yamada-Ms DAT also password.number ACC teach.PST  
 ‘I taught the password number also to Ms Yamada,’

When a toritate particle is added to a noun phrase, the case particle preceding the toritate particle may be deleted. For example, the case particle *ga* is deleted before a toritate particle, as in (9a) and the case particle *o* is also usually deleted, as in (9b). However, other case particles like *ni* or *de* are usually not deleted before a toritate particle, as in (9c).

- (9) a. *Syatyoo ga sae sono zizitu o siranakatta.*  
 company.president NOM even that fact ACC know.NEG.PST  
 ‘Even the president of the company didn’t know about that.’
- b. *Omuretu o gurai tukureru.*  
 omelet ACC about make.POTEN.NONPST  
 ‘I can at least make an omelet.’
- c. *Ano biru no okuzyoo ni mo*  
 that building GEN roof LOC also  
*heripooto ga aru.*  
 heliport NOM exist.NONPST  
 ‘There’s also a heliport on the roof of that building.’

Toritate may be shown by toritate adverbs (*toritate-fukushi*), in addition to toritate particles. The *tan.ni* ‘simply’ in (10a) and the *toku.ni* ‘especially’ in (10b) are toritate adverbs.

- (10) a. *Kono hoohoo wa tan.ni hiyoo ga yasui*  
 this method TOP simply expense NOM cheap,NONPST  
*kara erabareta no dewanai.*  
 since select.PASS.PST NMLZ COP.NEG.NONPST  
 ‘It’s not the case that this method was selected simply because it’s cheap.’
- b. *Kono kyoku wa toku.ni merodii ga utukusii.*  
 this musical.piece TOP especially melody NOM beautiful.NONPST  
 ‘The melody of this piece is especially beautiful.’



Toritate particles are attached after the word, phrase, or clause they focus or defocus, but toritate adverbs are fundamentally placed before the word, phrase, or clause they apply to. In (10a), *tan.ni* applies to *hiyoo ga yasui kara*. In (10b), *toku.ni* applies to *merodii*.

## 2.2 Semantics of toritate

The meanings expressed by toritate can be broadly divided into 6 categories. The meanings expressed by and the respective meanings of some representative toritate particles are listed in (11).

- |                             |  |
|-----------------------------|--|
| (11) Restriction:           | <i>dake</i> ‘only’, <i>bakari</i> ‘just’                               |
| Anti-restriction:           | <i>demo</i> ‘even if it is’, <i>nanka</i> ‘or something of the kind’   |
| Extremes:                   | <i>sae</i> ‘even’, <i>made</i> ‘even extending to’                     |
| Anti-extremes (normal):     | <i>nanka</i> ‘or something of the kind’, <i>gurai</i> ‘at least about’ |
| Similarity:                 | <i>mo</i> ‘also, as well’  |
| Anti-similarity (contrast): | <i>wa</i> ‘contrast, unlike others’                                    |

Toritate particles expressing these 6 meanings are well developed in Japanese and are, in fact, used regularly. In English, expressions of restriction, extremes, and similarity are well developed and are quite often used, but expressions of anti-restriction, anti-extremes, and anti-similarity are not well developed and are not often used.

Toritate semantics will be described in more detail in section 3.

## 2.3 The syntax of toritate

Toritate particles can attach to a variety of constituents. Examples of the variety of such constituents are given in (12).

- |                     |  |
|---------------------|--|
| (12) Noun:          | <i>Yamada-san dake ni (sirasetu.)</i> ‘(Someone) informed only Ms Yamada.’   |
| Noun Phrase:        | <i>Tanaka-san ni made (hanasita no ka?)</i> ‘Did you talk of it even to Ms Tanaka?’  |
| Adverb:             | <i>Hakkiri.to wa (kotaenakatta.)</i> ‘(He) didn’t answer <b>clearly</b> .’   |
| Subordinate clause: | <i>Kosei ga nai kara koso (minna ni sukareru no da.)</i> ‘It’s precisely because it has no idiosyncrasies that it is liked by everyone.’ |
| Predicate:          | <i>Odoroki mo (sinakatta.)</i> ‘(He) wasn’t even (the least bit) surprised.’   |

Toritate particles only attach to constituents that have noun-like qualities. Thus, when one is attached to a predicate, the stem of the predicate is first changed to a noun-like form (e.g. *odoroki*) and the toritate particle is attached to that. The light verb *suru* is then inserted and conjugational endings are attached to *suru*.

Among the toritate particles, there are some that impose restrictions on the predicates with which they co-occur. For example, *sae* showing an extreme can be used in a sentence like (13a) that expresses conjecture. However, as shown by (13b), it cannot be used in a sentence that expresses intention.

- (13) a. *Doromizu sae nomu daroo.*  
           muddy.water even drink.NONPST COP.PRES  
           ‘(He’ll) probably even drink muddy water.’
- b. \**Doromizu sae nomoo.*  
           muddy.water even drink.INT  
           ‘Let’s drink muddy water!’

Toritate syntax will be addressed in detail in section 4.

## 2.4 Situating toritate in Japanese grammar

Toritate particles are well developed in Japanese. There are toritate particles showing a variety of meanings and they are, in fact, frequently used.

In a language like English in which toritate is expressed with adverbs, it is difficult to recognize the importance of toritate in grammar. Since adverbs each have their own idiosyncrasies, they are more easily treated as a lexical problem than as a grammatical problem.

In Japanese, since toritate particles are every bit as much particles as are case particles, toritate is easily recognized as a problem in the grammar. Since toritate particles have, in particular, the characteristics shown in (14a)–(14c), issues like these have drawn interest and have been studied from a grammatical perspective.

- (14) a. A single toritate particle may express multiple meanings. For example, *mo* expresses both similarity and extreme meanings.
- b. Case particles normally attach only to nouns or noun phrases, but toritate particles attach to adverbs, subordinate clauses, and predicates in addition to nouns and noun phrases.
- c. *Case particles do not have co-occurrence constraints with regard to the tense or modality of predicates, but toritate particles may have co-occurrence constraints with regard to the tense or modality of predicates.*

In the seven-volume grammar of Japanese compiled by Nihongo Kijutsu Bunpō Kenkyūkai [the Japanese Language Descriptive Grammar Research Group] (2003–2010) the description is divided into the 13 sections shown in (15), and the fact that “Toritate” is one of the sections shows the importance of toritate in Japanese grammar.

- (15) General Overview, Morphology, Case and Constructions, Voice, Aspect, Tense, Polarity, Modality, Toritate, Topic, Complex Sentences, Discourse, Attitudinal Expressions

### 3 History of toritate research

This section describes the history of research on toritate particles, including the time when they were studied as *kakarijoshi* ‘binding particle, concord particle’ and *fukujoshi* ‘adverbial particle’.

#### 3.1 Research on *kakarijoshi* and *fukujoshi*

The term *toritate* became common in Japanese grammar about 30 years ago. Before that, research on toritate was done under the rubric of *kakarijoshi* and *fukujoshi*.

In old Japanese, there was a phenomenon called *kakari-musubi* ‘concord, linked-forms’. In this phenomenon, when a particular particle was used, the form of the verb had to change to match. For example, when the particle *koso* was used, the verb appeared, not in the conclusive (*shūshikei*) form, but in the realis (*izenkei*) form, as shown in (16). Particles that changed the form of the predicate in this way were called *kakarijoshi*.

- (16) *Ima koso wakare.me.*  
 now especially part.INT  
 ‘Let us part now. (It is an especially opportune time.)’

Adverbial particles, on the other hand, attach to nouns like case particles and *kakarijoshi*, but, unlike case particles, they do not mark case, and, unlike *kakarijoshi*, they do not participate in the *kakari-musubi* phenomenon. They are not limited to attaching to nouns or noun phrases but can attach to a variety of phrases to express such meanings as restriction, exemplification, or similarity. The *nomi* in (17) is one example.

- (17) *karaki koto nomi ari.*  
 painful.ADN thing only exist.NONPST  
 ‘There are only painful things.’

Since in Modern Japanese the *kakari-musubi* phenomenon has disappeared, the necessity of considering *kakarijoshi* and adverbial particles separately has lessened. It would be reasonable to think of toritate particles as covering both *kakarijoshi* and adverbial particles

Among the adverbial particles, the phenomenon is seen that *made*, which expresses an extreme, can co-occur with an affirmative predicate, but cannot co-occur with a negative predicate. Accordingly, it could be said to be more logical not to separate the particles out into *kakarijoshi* and adverbial particles but rather to group them together as toritate particles and analyze the co-occurrence of each toritate particle with a predicate.

### 3.2 Research on toritate particles

It is probably safe to say that detailed research on toritate particles started with Numata (1986). Numata termed toritate particles toritate words (*toritate-shi*) and studied their syntactic and semantic characteristics. She also gave detailed descriptions of toritate particles, some of which are given in (18)

- (18) *mo*<sub>1</sub> (simple affirmation of other), *mo*<sub>2</sub> (unexpected), *mo*<sub>3</sub> (softening)  
*demo* (selective exemplification)  
*sae*<sub>1</sub> (unexpected), *sae*<sub>2</sub> (minimal condition)  
*made* (unexpected)  
*dake* (restriction)  
*bakari* (restriction)  
*sika* (restriction)  
*koso* (prominence)  
*gurai* (minimum limit)  
*nado*<sub>1</sub> (softening), *nado*<sub>2</sub> (negative emphasis)  
*wa* (contrast)

Since that time, analysis of toritate particles in Modern Japanese has proceeded with an growing quantity of research, including Teramura (1991), Numata (2000), Sawada (2007), and Nihongo Kijutsu Bupō Kenkyūkai (2009). Numata and Noda (2003) presented research on historical changes and geographic variation in toritate particles. Nakanishi (2012) conducted research on the acquisition of toritate particles by learners of Japanese.

### 3.3 Studies on toritate adverbs

The first detailed research on toritate adverbs was Kudo (1977). Kudo called toritate adverbs “restrictive adverbs” and described them, categorizing the meanings of toritate adverbs as shown with representative examples in (19).

- (19) Exclusionary restriction: *tada* ‘only’, *tan.ni* ‘simply’  
 Selective designation: *masa.ni* ‘surely’, *hoka.demo.naku* ‘none other than’  
 Prominence: *toku.ni* ‘especially’, *koto.ni* ‘particularly’  
 Centrality: *omo.ni* ‘mainly’, *syu.to.site* ‘in the main’  
 Exemplification: *tatoeba* ‘for example’  
 Comparative selection: *musiro* ‘rather’, *dotira.ka.to.ieba* ‘if I have to choose’  
 Analogy: *iwan’ya* ‘to say nothing of’, *masite* ‘much less’  
 Estimation, evaluation: *sukunaku.tomo* ‘at the least’, *semete* ‘at the very least’

Since then, although research on various other sorts of adverbs has progressed greatly, research on toritate adverbs is extremely limited.

## 4 What meanings do toritate particles express?

This section describes the meanings expressed by toritate particles.

In previous research, the meanings expressed by toritate particles were described separately for each particle. For example, in Numata (1986) *mo* is described in terms of cases when it expresses “simple affirmation of other”, cases when it expresses “unexpected”, and cases when it expresses “softening”, while *dake* is described as expressing “restriction”. Since until now, descriptions have been limited to this sort of approach, the connections among the various meanings toritate particles express have never been clarified and there has been no systematization of the meanings of toritate particles.

Here, the meanings that toritate particles express are shown systematically in 6 categories. Doing so makes it clear that the meanings expressed by toritate particles are not randomly scattered but are systematic.

### 4.1 An overview of the meanings expressed by toritate particles

Following Noda (2015), the meanings expressed by toritate particles are systematically displayed below in a table of three sets, each with two contrasting members.

As can be seen in Table 1, first, “Restriction” and “Anti-restriction” express opposing meanings. “Anti-restriction” is “Exemplification”. Second, “Extremes” and “Anti-extremes” express opposing meanings. “Anti-extremes” is “Ordinary”. Third, “Similarity” and “Anti-similarity” express opposing meanings. “Anti-similarity” is “Contrast”.

Sections 4.2 through 4.8 describe the meanings expressed by “Restriction”, “Anti-restriction”, “Extremes”, “Anti-extremes”, “Similarity”, and “Anti-similarity” toritate particles in order. When more than one toritate particle belongs to the same

**Table 1:** Meanings expressed by toritate particles

Meaning	Representative toritate particles	Meaning	Representative toritate particles
<b>Restriction</b>	<i>dake</i> ‘only’ <i>bakari</i> ‘just’ <i>sika</i> ‘none other than’	<b>Anti-restriction (Exemplification)</b>	<i>demo</i> ‘even if it is’ <i>nanka</i> ‘or something’
<b>Extremes</b>	<i>sae</i> ‘even’ <i>made</i> ‘even extending to’ <i>demo</i> ‘even being’	<b>Anti-Extremes (Ordinary)</b>	<i>nanka</i> ‘even though it is’ <i>gurai</i> ‘at least, about’
<b>Similarity</b>	<i>mo</i> ‘also, as well’	<b>Anti-similarity (Contrast)</b>	<i>wa</i> ‘contrast, unlike the others’

semantic category, the differences in meaning among are described. Section 4.9 describes the mutual relationships among the six categories of meaning the toritate particles express.

## 4.2 What it means to have a toritate particle attached

When a toritate particle is attached to a constituent in a sentence, one of the meanings shown in 4.1 (“Restriction”, “Anti-restriction”, Extremes”. “Anti-extremes”, “Similarity”, and “Anti-similarity”) is added. For example, when the toritate particle *dake* expressing restriction is added to *koohii* ‘coffee’ in (20a), the result is (20b).

- (20) a. *Kesa, koohii o nonda.*  
           this.morning coffee ACC drink.PST  
           ‘I drank coffee this morning.’
- b. *Kesa, koohii dake nonda.*  
           this.morning coffee drink.PST  
           ‘I drank only coffee this morning.’

(20a) just states the fact that I drank coffee this morning and does not particularly emphasize that what I drank was only coffee. Thus, in the case that I drank not only coffee but also juice, saying (20a) would not be a lie.

On the other hand, (20b) emphatically states that I did not drink anything other than coffee. Thus, in the case that I drank not only coffee but also juice, saying (20b) would be a lie. If, for example, the toritate particle *demo* expressing anti-restriction is added to *biiru* ‘beer’ in (21a), the result is (21b).

- (21) a. *Biiru o nomimasyoo.*  
 beer ACC drink.POL.INT  
 ‘Let’s drink (some) beer.’
- b. *Biiru demo nomimasyoo.*  
 beer drink.POL.INT  
 ‘Let’s drink (some) beer or something.’

(21a) simply proposes drinking some beer and does not particularly posit drinking anything other than beer. Thus, even if, after saying (21a), one were to take someone to an establishment that serves only beer, the person being invited would not feel any sense of oddness.

On the other hand, (21b) affirmatively expresses the idea that drinking something other than beer would also be acceptable. Thus, if after saying (21b), one were to take someone to an establishment that serves only beer, the person being invited might feel a sense of oddness.

The toritate particles thus emphatically express the meanings of “Restriction”, “Anti-restriction”, “Extremes”, “Anti-extremes”, “Similarity”, and “Anti-similarity”. If it should be the case that one gets the same interpretation from an utterance even without the use of toritate particles, that would be no more than a pragmatic implication.

### 4.3 Toritate particles expressing restriction

Toritate particles like *dake*, *sika*, and *bakari* express “restriction”. “Restriction” here means that what is referred to by the word or phrase the toritate particle is attached to is limited to that object and that the sentence does not apply to any other object.

The toritate particles *dake* and *sika* expressing restriction are used in (22a) and (22b), respectively. Both sentences express the idea “what is being cultivated is apples and nothing else”.

- (22) a. *Kono noozyoo dewa ringo dake tukutte iru*  
 this farm LOC.TOP apple only grow.GER be.NONPST.  
 ‘At this farm they grow only apples.’
- b. *Kono noozyoo dewa ringo sika*  
 this farm LOC.TOP apple none.other.than  
*tukutte inai*  
 grow.GER be.NEG.NONPST.  
 ‘At this farm they grow nothing but apples.’

The difference between *dake* and *sika* is a difference in where emphasis is being placed. In (22a) with *dake*, the emphasis is “what they grow here is limited to

apples”. On the other hand, in (22b) with *sika* the emphasis is “they do not grow anything other than apples”.

Since there is this sort of difference, it would be more natural for a speaker to continue with (23a) following (22a) than to continue with (23b). Conversely, it would be more natural to follow (22b) with (23b) than with (23a).

- (23) a. *Dakara zyuugyooiin wa ringo no saibai*  
 therefore employees TOP apple GEN cultivation  
*no koto o yoku sitte iru.*  
 GEN thing ACC well know.GER be.NONPST  
 ‘Therefore, the employees are really knowledgeable about the cultivation of apples.’
- b. *Dakara, zyuugyooiin wa ta no kudamono*  
 therefore employees TOP other GEN fruit  
*no saibai no koto wa siranai.*  
 GEN cultivation GEN thing TOP know.NEG.NONPST  
 ‘Therefore, the employees know nothing about the cultivation of other fruits.’

*Bakari* also expresses restriction, but it is used in sentences like (24a) that express a situation that is repeated many times or that persists for a long time. If used in a sentence that does not express such a situation, like (24b), then the sentence becomes unnatural.

- (24) a. *Kare wa mainiti geemu bakari site iru.*  
 he TOP every.day electronic.games do.GER be.NONPST  
 ‘All he does every day is play electronic games.’
- b. ?*Kare wa hiruyasumi ni geemu bakari sita.*  
 he TOP lunch.break in electronic.games do.PST  
 ‘All he did at lunch break was play electronic games.’

Toritate expressions expressing restriction are found not only in Japanese but in most other languages as well. English, for example, has such expressions as “only”, “merely”, and “alone”.

#### 4.4 Toritate particles expressing anti-restriction

Toritate particles like *demo* or *nanka* express “anti-restriction”. “Anti-restriction” here means that what is referred to by the word or phrase the toritate particle is



attached to is not limited to that object and that any similar object would be acceptable. The word or phrase the toritate particle is attached to is simply given as a representative example.

In (25a) a toritate particle expressing anti-restriction, that is, exemplification, *demo* is used. This *demo* shows the possible beverages are not restricted to “coffee”. That is, a similar beverage like tea or even a juice would also be good. In (25b), in which the anti-restrictive *demo* is not used, there is no thought of the possibility of some other beverage like tea or juice.

(25) a. *Koohii demo nomimasyoo ka.*  
 coffee drink.POL.INT Q  
 ‘Shall we have some coffee or something?’

b. *Koohii o nomimasyoo ka.*  
 coffee ACC drink.POL.INT Q  
 ‘Shall we have some coffee?’

The toritate particles *demo* and *nanka* are not forms that are used exclusively to express anti-restriction. *Demo* is sometimes also used to express extremes and *nanka* is sometimes also used to express anti-extremes. Toritate particles expressing extremes are discussed in 4.5 and toritate particles expressing anti-extremes in 4.6.

Japanese has toritate expressions showing anti-restriction, but there are many languages in which toritate expressions showing anti-restriction are not much used. In English, there are no adverbial expressions as toritate expressions showing anti-restriction and so there is no choice but to use “or something” or the like.

In English, it is easier, compared to Japanese, to express the meaning of exemplification pragmatically, without explicitly stating that it is exemplification. An English sentence like (26a) can express the meaning that another beverage like tea or juice would also be acceptable, even without using “or something”. Compared to the English expression, it is difficult to show the meaning that another beverage like tea or juice would also be acceptable without using something like *demo*.

(26) a. *Shall we have some coffee?*

b. *Koohii o nomimasyoo ka.* (= (25b))

## 4.5 Toritate particles expressing extremes

Toritate particles like *sae*, *made*, and *demo* express extremes. “Extremes” here means that it is unusual for the situation described in the sentence to happen with what is referred to by the word or phrase the toritate particle is attached to, that it is an extreme. There is the implication that if the situation described by the sentence happens even with the extreme object, it would have happened much more easily with something not so extreme.

(27) uses *sae*, a toritate particle expressing extremes. The sentence expresses the meaning that, as the speaker's thought before the game, "I will win" is extreme. In this case, there is the implication that the speaker's thinking he would win naturally means he thought he would come in in the best 8 or the best 4.

- (27) *Siai.mae*                      *wa*   *zibun*   *ga*   *yuusyoo*   *suru*  
 before.competition   TOP   self   NOM   win   do.NONPST  
*to*        *sae*   *omotta.*  
 QUOT        think.PST  
 'Before the competition I thought I might even win.'

In this case, the event of finishing in the top 4 is an event less likely to occur than finishing in the top 8, and that of winning is even less likely than finishing in the top 4. Toritate particles expressing extremes are used in cases like this in which there is a hierarchy of difficulty from easy to achieve to difficult to achieve. The circumstance that the toritate particle expressing extremes foregrounds is the most difficult end of the hierarchy and has the implication that if that circumstance should be realized then, naturally, the more easily achieved circumstances will be realized.

*Made* also expresses extremes. (28) shows the meaning that, as something to make by oneself, "ice cream" would be a stretch. In this case, there is the implication that of course the person could manage something easy like a boiled egg or a salad.

- (28) *Kare*   *wa*   *aisu.kuriimu*   *made*   *zibun.de*   *tukuru.*  
 he   TOP   ice cream                      by.himself   make.NONPST  
 'He even makes his own ice cream.'

Unlike *sae*, *made* is basically not used in a negative sentence. Therefore, the negative sentence (29a) in which *made* appears is extremely unnatural. Replacing *made* with *sae*, as in (29b) yields a natural sentence.

- (29) a. \**Kare*   *wa*   *yude.tamago*   *made*   *zibun.de*  
           he   TOP   boiled egg                      by.himself  
           *tukurenai*  
           make.POTEN.NEG.NONPST  
       b. *Kare*   *wa*   *yude.tamago*   *sae*   *zibun.de*  
           he   TOP   boiled egg                      by.himself  
           *tukurenai*  
           make.POTEN.NEG.NONPST  
           'He can't even boil an egg by himself.'

*Demo* also expresses extremes. (30) expresses the meaning that, as someone who does not know about this kind of illness, a “doctor” is an extreme. In this case, there is the implication that, naturally, a layman or a pharmacist would also not be knowledgeable.

- (30) *Isya demo konna byooki wa siranai.*  
 doctor this.kind.of illness TOP know.NEG.NONPST  
 ‘Not even a doctor knows about this disease.’

*Demo* comes from *deattemo* ‘COP.GER.even’, a form showing supposition. (30) shows the meaning, “Even though that person may be a doctor, that person does not know about this kind of disease.” Because of this, it is not used in a sentence depicting an event that occurred in the past.

Toritate expressions expressing extremes are found not only in Japanese but in many other languages as well. English has “even”.

## 4.6 Toritate particles expressing anti-extremes

Toritate particles like *nanka*, and *gurai* express anti-extremes. “Anti-extremes” here means that it is perfectly normal for the situation described in the sentence to happen with what is referred to by the word or phrase the toritate particle is attached to, that it is not extreme. There is the implication that, although the situation is realized with such a normal object, it would not be realized with something that was not so normal.

A toritate particle expressing anti-extremes, *nanka*, is used in (31). This sentence expresses the meaning that “jogging” is normal as something that is done every day. In this case there is the implication that one does not play, for example, tennis or golf every day.

- (31) *Zyoggingu nanka mainiti site iru.*  
 Jogging every.day do.GER be.NONPST  
 ‘I jog every day.’

*Gurai* also expresses anti-extremes. (32) expresses the meaning that a “harmonica” is normal as an instrument one blows into to play. In this case, there is the implication that one cannot not play, say, a flute or a trumpet.

- (32) *Haamonika gurai hukeru*  
 harmonica blow.POTEN.NONPST  
 ‘I can play a harmonica, at least.’

Unlike *nanka*, *gurai* is basically not used in a negative sentence. Therefore, the negative sentence (33a) in which *gurai* is used, sounds extremely unnatural. Replacing *gurai* by *nanka*, as in (33b), yields a natural sentence.

- (33) a. \**Toranpetto gurai hukenai.*  
           trumpet                      blow.POTEN.NEG.NONPST
- b. *Toranpetto nanka hukenai.*  
           trumpet                      blow.POTEN.NEG.NONPST  
           ‘I can’t play a trumpet (or anything like it).’

Japanese has toritate expressions showing anti-extremes, but there are many languages in which toritate expressions showing anti-extremes are not much used. In English there is no archetypical toritate expression showing anti-extremes. Depending on the context, there are times when the same meaning can be expressed by expressions like “at least” or “only”.

In English, it is easier, compared to Japanese, to express the meaning of anti-extremes pragmatically, without explicitly stating that it is anti-extreme. Depending on the context, an English sentence like (34a) can pragmatically express the meaning, “If it’s just a minute, I can wait.” In contrast, a sentence like (34b) without *gurai* is somewhat unnatural. A sentence like (34c) would be more natural.

- (34) a. *I’m in a hurry, but I can wait one minute.*
- b. ?*Isoide iru kedo, ippun materu.*  
           hurry.GER be,NONPST but one.minute wait.POTEN.NONPST
- c. *Isoide iru kedo, ippun gurai materu.*  
           hurry.GER be,NONPST but one.minute wait.POTEN.NONPST  
           ‘I’m in a hurry, but I can wait (if it’s as little as) one minute.’

## 4.7 Toritate particles expressing similarity

The toritate particle *mo* shows similarity. “Similarity” here means that it is not only with what is referred to by the word or phrase the toritate particle is attached to that the situation described by the sentence can be realized, but that something else could equally well bring about the situation described in the sentence or some situation close to it.

In the sentences of (35a), the predicate of the second sentence, *isya da*, is the same as that of the first. In a case like this, the subject of the second sentence, *ani*, must have the toritate particle *mo* attached to it. If *mo* is not attached, as in the second sentence of (35b), the sentence is unnatural.

- (35) a. *Ane wa isya da.*  
 older.sister TOP doctor COP.NONPST  
*Ani mo isya da.*  
 older.brother doctor COP.NONPST  
 'My older sister is a doctor. My older brother also is a doctor.'

- b. *Ane wa isya da.*  
 older.sister TOP doctor COP.NONPST  
*#Ani wa isya da.*  
 older.brother TOP doctor COP.NONPST  
 'My older sister is a doctor. My older brother is a doctor.'

Whether or not a toritate particle expressing similarity is used depends on the context. The *ani* in (36a) does not have the toritate particle *mo* attached. This is because it is used in a context that relates the difference in the older sister's and brother's jobs. In (36b), on the other hand, *ani* had the toritate particle *mo* attached. This is because it is used in a context that conveys the fact that both are similarly health care providers.

- (36) a. *Ane wa isya da.*  
 older.sister TOP doctor COP.NONPST  
*Ani wa kangosi da.*  
 older.brother TOP nurse COP.NONPST  
*Hutari wa onazi byooiin de hataraitte*  
 two.people TOP same hospital LOC work.GER  
*iru ga, tigau sigoto o*  
 be.NONPST but different.NONPST job ACC  
*site imasu.*  
 do.GER be.POL.NONPST  
 'My older sister is a doctor. My older brother is a nurse. They both work at the same hospital, but they are doing different jobs.'

- b. *Ane wa isya da.*  
 older.sister TOP doctor COP.NONPST  
*Ani mo kangosi da.*  
 older.brother nurse COP.NONPST  
*Dakara, karada no guai ga*  
 therefore body GEN condition NOM  
*waruku nattemo, ansin da.*  
 bad.ADV become.GER.even at.ease COP.NONPST  
 'My older sister is a doctor. My older brother is also a nurse. So I don't worry about getting get sick.'

Toritate expressions expressing similarity are found not only in Japanese but in many other languages as well. English has “too” and “also”. There are also “either” and “neither” used in negative sentences.

#### 4.8 Toritate particles used to express anti-similarity

The toritate particle *wa* expresses anti-similarity. “Anti-similarity” here means that while what is referred to by the word or phrase the toritate particle is attached to can bring about the situation described by the sentence, something other than that could not bring about the situation described in the sentence or some situation close to it. This is contrast.

In sentence (37a), the predicate of the second clause is *nomanakatta* ‘did not drink’. This contrasts with *nonda* ‘drank’ in the first clause. In a case like this, the toritate particle expressing anti-similarity, *wa*, must be attached to the *koora* ‘cola’ in the first clause and the *biiru* ‘beer’ in the second clause. A sentence like (37b) in which *wa* is not used is unnatural.

- (37) a. *Watasi wa koora wa nonda ga.*  
           I       TOP cola       drink.PST but  
           *biiru wa nomanakatta.*  
           beer       drink.NEG.PST  
           ‘I drank cola, but I didn’t drink beer.’
- b. \**Watasi wa koora o nonda ga.*  
       I       TOP cola   ACC drink.PST but  
       *biiru o nomanakatta.*  
       beer ACC drink.NEG.PST  
       ‘I drank cola, but I didn’t drink beer.’

Besides its use to show contrast, the particle *wa* is also used to show a sentence topic. The *koora wa* and *biiru wa* in (37a) show contrast, not the topic. The topic of this sentence is *watasi wa* and the *koora wa* and *biiru wa* show not the topic but a contrastive meaning.

On the one hand, the *otooto wa* in (38a) simply shows the topic, showing no contrastive meaning. In (38b), on the other hand, *watasi wa* and *otooto wa* can be considered to show both topic and a contrastive meaning.

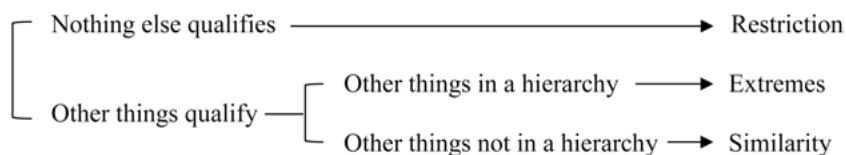
- (38) a. *Ootooto wa Tookyoo de umareta.*  
           younger.brother Tokyo LOC be.born.PST  
           ‘My younger brother was born in Tokyo.’

- b. *Watasi wa Osaka de umareta ga,*  
 I Osaka LOC be.born.PST but  
*otooto wa Tookyoo de umareta.*  
 younger.brother Tokyo LOC be.born.PST  
 ‘I was born in Osaka, but my younger brother was born in Tokyo.’

Japanese has toritate particles expressing anti-similarity, but there are many languages that do not have toritate expressions expressing anti-similarity. In English there is no toritate expression expressing anti-similarity and contrast is shown by changing the word order to put the contrasted constituent at the beginning of the sentence and give it prominence.

## 4.9 Mutual relations among the meanings expressed by toritate particles

In 4.1 through 4.8, the meanings expressed by toritate particles were organized into three sets each with two opposing members: [Restriction – Anti-restriction], [Extremes – Anti-extremes], and [Similarity – Anti-similarity]. The relations among these sets are shown below.



This figure shows the relations among “restriction”, “extremes”, and “similarity”. “Nothing else qualifies” in the figure means “things that are applicable to a given situation are limited to what is referred to by the word or phrase to which the toritate particle is attached and no other object belonging to the same category of things is applicable”. This corresponds to “restriction” toritate particles.

“Other things qualify” means “things that are applicable to a given situation are not limited to just what is referred to by the word or phrase the toritate particle is attached to and other objects in the same category of things may be applicable”. This corresponds to “extremes” and “similarity” toritate particles. With “extremes” toritate particles, there is a hierarchy among the objects belonging to the same category, but with “similarity” toritate particles, there is no such hierarchy.

On the other hand, “anti-restriction”, “anti-extremes”, and “anti-similarity” have the following relation with “restriction”, “extremes”, and “similarity”. Since toritate particles expressing “anti-restriction” are the opposite of “restriction”, they correspond to “other things qualify”. Since toritate particles expressing “anti-extremes”

and “anti-similarity” are the opposites of “extremes” and “similarities”, respectively, they correspond to “nothing else qualifies”. With toritate particles expressing “anti-extremes”, there is a hierarchy among objects belonging to the same category, but with toritate particles expressing “anti-similarity”, there is no such hierarchy.

In this way, “anti-restriction” shares “other things qualify” with “extremes” and “similarity”, and “anti-extremes” and “anti-similarity” share “nothing else qualifies” with “restriction”.

## 5 To what elements do toritate particles attach?

This section describes what kinds of elements in a sentence toritate particles attach to. The elements toritate particles attach to are shown divided into 5 categories.

### 5.1 An overview of the elements to which toritate particles attach

The elements to which toritate particles attach can be divided into 5 categories as shown in Table 2.

**Table 2:** Elements toritate particles attach to

Sentence Constituent	Example
<b>Noun</b>	<i>Yamada-san dake ni (sirasete)</i> '(Someone) informed only Ms Yamada.'
<b>Noun Phrase</b>	<i>Tanaka-san ni made (hanasita no ka)</i> 'Did you talk of it even to Ms Tanaka?'
<b>Adverb</b>	<i>Hakkiri.to wa (kotaenakatta)</i> '(He) didn't answer <b>clearly</b> .'
<b>Subordinate Clause</b>	<i>Kosei ga nai kara koso (minna ni sukareru no da)</i> 'It's precisely because it has no idiosyncrasies that it is liked by everyone.'
<b>Predicate</b>	<i>Odoroki mo (sinakatta.)</i> '(He) wasn't even (the least bit) surprised.'

Attachment of toritate particles to “nouns”, “noun phrases”, “adverbs”, “subordinate clauses”, and “predicates” will be described in order in 5.2 through 5.6.

### 5.2 Toritate particles attaching to nouns

Toritate particles attach to nouns. In (39) a toritate particle expressing restriction, *dake*, is attached to the noun *Yamada-san*.



- (39) *Tyoosa-kekka wa Yamada-san dake ni siraseta.*  
 investigation.results TOP Yamada-Ms only DAT inform.PST  
 ‘(I) informed only Ms Yamada of the results of the investigation.’

Toritate particles that can attach to nouns are limited those such as *bakari*, *made*, and *nanka*, in addition to *dake*, which expresses restriction. Even though it is a toritate particle expressing restriction like *dake*, *sika* cannot be attached to a noun, as shown in (40).

- (40) \**Tyoosa-kekka wa Yamada-san sika ni sirasenakatta.*  
 investigation.results TOP Yamada-Ms DAT inform.NEG.PST  
 ‘(I) informed no one except Ms Yamada of the results of the investigation.’

### 5.3 Toritate particles attaching to noun phrases

Toritate particles attach to noun phrases. In (41) a toritate particle expressing extremes, *made*, is attached to the noun phrase *Tanaka-san ni*, composed of a noun and a case particle.

- (41) *Sono himitu o Tanaka-san ni made hanasita no ka*  
 that secret ACC Tanaka-Ms DAT speak.PST NMLZ Q  
 ‘Did you tell that secret even to Ms Tanaka?’

Basically any toritate particle can attach to a noun phrase. However, when a toritate particle attaches to a noun phrase including the case particles *ga* ‘NOM’ or *o* ‘ACC’, basically the case particles *ga* and *o* cannot remain, as shown in (42a). In (42b) the case particle *o* has been deleted.

- (42) a. \**Tanaka-san ni sono himitu o made hanasita no ka?*  
       Tanaka-Ms DAT that secret ACC speak.PST NMLZ Q  
       b. *Tanaka-san ni sono himitu made hanasita no ka?*  
       Tanaka-Ms DAT that secret speak. PST NMLZ Q  
       ‘Did you tell even that secret to Ms Tanaka?’

Also, there is basically no difference in meaning between when a toritate particle is attached to a noun phrase, as in (43a), and when a toritate particle is attached to a noun (cf. 5.2), as in (43b),

- (43) a. *Tyoosa-kekka wa Yamada-san ni dake siraseta.*  
 investigation.results TOP Yamada-Ms DAT inform.PST  
 ‘(I) informed only Ms Yamada of the results of the investigation.’

- b. *Tyoosa-kekka wa Yamada-san dake ni siraseta.* (=39))  
 investigation.results TOP Yamada-Ms DAT inform.PST  
 ‘(I) informed only Ms Yamada of the results of the investigation.’

## 5.4 Toritate particles attaching to adverbs

Toritate particles attach to adverbs. In (44) the toritate particle expressing anti-similarity (contrast), *wa*, is attached to the adverb *hakkiri.to*.

- (44) *Yamada-san wa sono situmon ni hakkiri.to wa kotaenakatta.*  
 Yamada-Ms TOP that question to clearly reply.NEG.PST  
 ‘Ms Yamada didn’t answer that question **clearly**.’

It is not the case that toritate particles can attach to any adverb. They attach easily to adverbs showing manner, as in (44), and adverbs showing quantity, as in (45a). They cannot attach to adverbs showing modality, as in (45b) or adverbs showing degree, as in (45c).

- (45) a. *Suupu o sukosi dake nonda.*  
 soup ACC a.little drink.PST  
 ‘(I) drank only a little of the soup.’
- b. \**Tabun dake asita wa ame ga huru.*  
 maybe tomorrow TOP rain NOM fall.NONPST  
 ‘**Maybe** tomorrow it will rain.’
- c. \**Sono koon wa totemo dake hirokatta.*  
 that park TOP very be.spacious.PST

## 5.5 Toritate particles attaching to subordinate clauses

Toritate particles attach to subordinate clauses. In (46) a toritate particle expressing restriction, *koso*, is attached to a subordinate clause showing reason, *kosei ga nai kara*.

- (46) *Kono baggu wa kosei ga nai*  
 this handbag TOP idiosyncrasies NOM exist.NEG.NONPST  
*kara koso, minna ni sukareru no da.*  
 since everyone AGT like.PASS.NONPST NMLZ COP.NONPST  
 It’s precisely because it has no idiosyncrasies that this handbag is liked by everyone.

Among subordinate clauses, there are those, like subordinate clauses showing time, to which toritate particles can attach easily. (47a) is an example of a subordinate clause showing time (*...toki*) with *gurai* attached to it. On the other hand, there are subordinate clauses, such as those expressing a reason, to which it is almost impossible for toritate particles to attach. A toritate particle cannot attach to a subordinate clause with *node* expressing a reason, as in (47b).

- (47) a. *Syokuzi o site iru toki gurai*  
 meal ACC do.GER be.NONPST time  
*sigoto no hanasi o suru no wa yameyoo.*  
 work GEN talk ACC do.NONPST NMLZ TOP cease.INT  
 ‘Let’s stop talking about work, at least while we’re eating.’
- b. \**Tukareta node dake, hayaku ie ni kaeritai.*  
 tire.PST since early home to return.DESI.NONPST  
 ‘Just because I’m tired, I want to go home early.’

## 5.6 Toritate particles attaching to predicates

Toritate particles attach to predicates. In (48) a toritate particle expressing extremes is attached to the predicate *odorokanakatta*.

- (48) *Sonna koto ni wa odoroki mo sinakatta.*  
 that.kind of thing at TOP surprise do.NEG.PST  
 ‘(He) wasn’t the least surprised at such a thing.’

As in (48), when a toritate particle is attached to a predicate, the stem of the predicate is first changed to a noun-like form (e.g. *odoroki*) and the toritate particle is attached to that. The light verb *suru* is then inserted and the conjugational endings are attached to *suru*. When the verb is in a form that includes *-te*, as in *-te iru* ‘be doing’ or *-te kureru*, the toritate particle is attached after the *te*.

- (49) *Bukkyoo ni.tuite no essee wa mada*  
 Buddhism about GEN essay TOP still  
*kaki.hazime.te sae inai.*  
 begin.writing.GER be.NEG.NONPST  
 ‘I haven’t even begun writing my essay on Buddhism.’

When a toritate particle attaches to an adjective (an *i*-adjective), it attaches to the adverbial form of the adjective followed by the light verb *aru*, as in (50a) in which the negative form, *nai*, of the verb *aru* is used. When toritate particles are attached

to nominal adjectives (*na*-adjectives) or to nominal predicates, as in (50b), *de* is placed after the stem of the nominal adjective or the noun and the toritate particle is attached following that, continuing with the light verb *aru*.

- (50) a. *Yama no ue demo samuku wa nakatta.*  
 mountain GEN top LOC.even cold,ADVL aru.NEG.PST  
 ‘Even at the top of the mountain, it wasn’t cold (contrary to expectation).’
- b. *Kono ryoori wa kenkoo.teki de mo aru.*  
 this dish TOP healthy  
 ‘This dish is also healthy (in addition tasting good).’

## 6 With what levels of the predicate do toritate particles co-occur?

Previous syntactic research on toritate particles has been centered on what kinds of elements toritate particles attach to and not much attention has been to concordance/co-occurrence relations between toritate particles and predicates.

The levels of the predicate with which toritate particles co-occur are divided into six levels here. Previous research on toritate particles centered on semantic aspects, but, through their co-occurrence relations with levels of the predicate, toritate particles are greatly involved with the structure of a sentence and it is clear that research on the syntactic aspects is also important.

### 6.1 An overview of levels of the predicate that co-occur with toritate particles

The case-bearing elements, adverbs, and subordinate clauses that toritate particles attach to modify the predicate. The interior of the predicate is thought to have the layered structure shown in (51a). (51b) shows examples of predicate elements corresponding to the levels in (51a).

- (51) a. Stem – Voice – Aspect – Polarity – Tense – Event-directed  
 Mood – Addressee-directed mood
- b. *sime – rare – tei – nakat – ta – yooda – ne*  
 ‘(It) looks like it wasn’t closed, right?’

In addition, there is thought to be another level in the predicate whose correspondence with linguistic forms is not visible on the surface – the realis level. This is

the level that distinguishes whether or not an utterance is a hypothetical. It is the level that shows concord with subordinate clauses that show hypothetical conditions, such as [...*tara*] or [...(*re*)*ba*].

As described in Noda (1995), the case-bearing elements, adverbs, and subordinate clauses to which toritate particles are attached can be thought of as being in concord with some level of the layered structure of the predicate described here.

For example, both *sae* and *demo* can express extremes, but the levels of the predicate they co-occur with are different. *Sae* can be used in a sentence like (52a) that shows conjecture, but it cannot be used in a sentence like (52b) that shows will or intention.

- (52) a. *Doromizu sae nomu daroo.*  
           muddy.water           drink.NONPST COP.CONJEC  
           ‘(He’d) probably drink even muddy water.’
- b. \**Doromizu sae nomoo.*  
           muddy.water           drink.INT  
           ‘Let’s drink even muddy water.’

This is because *sae* selects an event-oriented mood, either conjecture or intention. From this fact we can conclude that *sae* co-occurs with the level of event-oriented mood.

On the other hand, *demo* can be used in both a sentence showing conjecture, like (53a) or one showing volition, like (53b).

- (53) a. *Doromizu demo nomu daroo.*  
           ‘(He’ll) probably drink even muddy water.’
- b. *Doromizu demo nomoo.*  
           ‘Let’s drink (something even if it’s) muddy water.’

This is because *demo* does not select an event-oriented mood, either conjecture or volition. From this fact, we can conclude that *demo* does not co-occur with the event-oriented mood level. The *demo* expressing extremes is thought to co-occur with some level inside the event-oriented mood level; details will be described in 5.5.

The predicate levels with which toritate particles co-occur can be divided into 6 groups as shown in Table 3.

Attachment of toritate particles to the “stem level”, the “aspect level”, the “polarity level”, the “realis level”, the “event-oriented level”, and the “addressee-oriented level” will be described in order in 6.2 through 6.7.

**Table 3:** Predicate levels with which toritate particles co-occur

Predicate level	Examples of toritate particles
<b>Stem Level</b>	<i>dake</i> (restriction)
<b>Aspect Level</b>	<i>bakari</i> (restriction)
<b>Polarity Level</b>	<i>sika</i> (restriction) <i>wa</i> (anti-similarity)
<b>Realis Level</b>	<i>nara</i> (restriction) <i>demo</i> (extremes)
<b>Event-oriented Level</b>	<i>demo</i> (anti-restriction) <i>sae</i> (extremes)
<b>Addressee-oriented Level</b>	<i>koso</i> (restriction) <i>mo</i> (anti-restriction)

## 6.2 Toritate particles co-occurring with stems

*Dake*, a toritate particle expressing restriction in (54), can be considered to co-occur with the stem level.

- (54) *Kare dake ni siraseta.*  
           he           DAT inform.PST  
           ‘(I) informed only him.’

Since *dake* can be used in any kind of sentence, it is difficult to ascertain with what level of the predicate it co-occurs. However, it can be concluded from indirect evidence that it co-occurs with the stem level.

The first piece of indirect evidence is that *dake* can be attached immediately after a noun rather than after a case particle. The noun at the level before case particles have been attached is the noun before case marking has been determined. A noun before case marking has been determined co-occurs with the stem level. Therefore, it can be said that it is possible that *dake* attached to a noun prior to determination of case marking co-occurs with the stem level.

The second piece of evidence is the fact that *dake* can appear inside a [...*nagara*] clause as in (55). According to Noda (2002), generally, elements that appear inside a [...*nagara*] clause co-occur with the stem level.

- (55) *Mae dake minagara kuruma o unten*  
       ahead           look.while vehicle ACC drive  
       *suru no wa abunai.*  
       do.NONPST NMLZ TOP dangerous.NONPST  
       ‘It is dangerous to drive a car (while) looking only ahead.’

From this sort of indirect evidence, it can be concluded that *dake* expressing restriction co-occurs with the stem level, the innermost level within the layers of levels in the predicate.

### 6.3 Toritate particles that co-occur with the aspect level

*Bakari*, a toritate particle expressing restriction in (56), can be considered to co-occur with the aspect level.

- (56) *Ryoosin wa ootoo bakari kawaigaru*  
 parents TOP younger.brother be.affectionate.toward.NONPST  
 ‘My parents shower all their affection on my younger brother.’

*Bakari* can be used in a sentence like (57a) that shows continuative or repetitive aspect but cannot be used in a sentence like (57b) that shows instantaneous aspect.

- (57) a. *Gakusei no toki wa hanbaagaa bakari tabete ita.*  
 student GEN time TOP hamburger eat.GER be.PST  
 ‘When I was a student I used to eat nothing but hamburgers.’  
 b. \**Kesa 7-zi ni hanbaagaa bakari tabeta.*  
 this.morning 7.o’clock at hamburger eat.PST  
 ‘At 7 o’clock this morning I ate nothing but hamburger.’

This shows that *bakari* selects between continuative/repetitive and instantaneous aspect. From this fact, it can be concluded that *bakari* co-occurs with the aspect level.

### 6.4 Toritate particles co-occurring with the polarity level

*Sika*, a toritate particle expressing restriction in (58a), and *wa*, a toritate particle expressing anti-similarity (contrast) in (58b), can be considered to co-occur with the polarity level.

- (58) a. *Kare ni sika sirasenakatta.*  
 he DAT inform.NEG,PST  
 ‘(I) didn’t inform anyone but him.’  
 b. *Sakana wa taberu ga, niku wa tabenai.*  
 fish eat.NONPST but meat eat.NEG.NONPST  
 ‘Fish, I eat, but, meat. I don’t eat.’

*Sika* can be used in a sentence showing negation like (59a), but it cannot be used in a non-negative sentence like (59b).

- (59) a. *Nyuukaikin sika iranai.*  
           initiation.fee           need.NEG, NONPST  
           ‘All you need is the initiation fee.’
- b. \**Nyuukaikin sika iru.*  
           initiation.fee           need. NONPST

*Sika* can basically only co-occur with a predicate that has a syntactic negative form, like the *-nai* in (59a). It cannot usually co-occur with a predicate that has a lexically negative meaning but no syntactic negative form, like (60).

- (60) \**Nyuukaikin sika huyoo da.*  
           initiation.fee           unneeded COP, NONPST.

*Sika* selects between negative or affirmative. From this fact, it can be concluded that *sika* co-occurs with the polarity level.

## 6.5 Toritate particles co-occurring with the realis level

*Nara*, a toritate particle expressing restriction in (61), can be considered to co-occur with the realis level.

- (61) *Hamada-san to nara kyooen suru.*  
       Hamada-Ms with appear.together do. NONPST  
       ‘Provided it’s with Ms Hamada, I’ll appear on stage together.’

*Nara* can only be used in a sentence that shows a hypothetical situation that has not occurred in reality, as in (61). Even should *nara* be used in a sentence like (62) that expresses the past, it is not the case that it shows a situation that occurred in reality. It ends up expressing a meaning contrary to reality, that is, “if the condition ‘with Ms Hamada’ had been satisfied, I would have appeared on stage together, but, as it was not, I did not.”

- (62) *Hamada-san to nara kyooen sita.*  
       Hamada-Ms with appear.together do. PST  
       ‘If it had been with Ms Hamada, I would have appeared on stage together.’

*Nara* selects between real and hypothetical situations. From this fact, it can be concluded to co-occur with the realis level.



## 6.6 Toritate particles co-occurring with the event-oriented mood level

*Demo*, a toritate particle expressing anti-restriction (exemplification) in (63), can be considered to co-occur with the event-oriented mood level.

- (63) *Otya demo nomoo.*  
 tea drink.INT  
 ‘Let’s drink some tea or something.’

*Demo* can be used in a sentence that expresses intention, like (63), or in a sentence that expresses a desire, like (64a), but it cannot be used in a sentence that simply narrates facts, like (64b).

- (64) a. *Otya demo nomitai.*  
 tea drink.DESI.NONPST  
 ‘I want to drink (some) tea or something.’  
 b. \**Otya demo nonda.*  
 tea drink.PST  
 ‘I drank (some) tea or something.’

*Demo* selects between sentences expressing things for which truth or falsity cannot be determined, like intention or desires, and sentences expressing things for which the truth or falsity can be determined, like narrative statements, that is, it selects between event-oriented moods. From this fact, it can be concluded that the *demo* that expresses anti-restriction (exemplification) co-occurs with the event-oriented level.

## 6.7 Toritate particles co-occurring with the addressee-oriented mood level

*Koso*, a toritate particle expressing restriction in (65), can be considered to co-occur with the addressee-oriented mood level.

- (65) *Yamada-san koso kaityoo ni husawasii.*  
 Yamada-Ms chairperson DAT be.suited.NONPST  
 ‘Ms Yamada, in particular, is suitable to be the chairperson.’

*Koso* can be used in a sentence like (65) expressing a statement, but it cannot be used in a sentence like (66) expressing a question.

- (66) \**Yamada-san koso kaityoo ni husawasii?*  
 Yamada-Ms chairperson DAT be.suited.NONPST  
 ‘Would Ms Yamada, in particular, be suitable to be the chairperson.’

*Koso* selects between sentences expressing statements and sentences expressing questions; that is, it selects between addressee-oriented moods. From this fact, it can be concluded that *koso* co-occurs with the addressee-oriented level.

## 7 Toritate adverbs

To this point, the discussion has been on toritate particles, but this section will discuss toritate adverbs.

### 7.1 The semantics of toritate adverbs

The meanings expressed by toritate adverbs can be broadly divided into the two groups, “restriction” and “prominence”, as shown in Table 4.

**Table 4:** Meanings expressed by toritate adverbs

Meaning	Examples of toritate adverbs
Restriction	<i>tan.ni</i> ‘simply’
	<i>tada</i> ‘only’
	<i>tatta</i> ‘merely’
Prominence	<i>toku.ni</i> ‘especially’
	<i>toriwake</i> ‘above all’
	<i>omo.ni</i> ‘mainly’

Toritate adverbs like *tan.ni*, *tada*, and *tatta* express “restriction”. The toritate adverb *tan.ni* expressing restriction is used in (67). It expresses the meaning, “what I was doing was looking at the scenery outside and I was not doing anything else.” There are also times when a toritate adverb expressing restriction is also used with the toritate particle *dake* expressing restriction, as in (67).

- (67) *Tan.ni soto no kesiki o mite ita dake desu.*  
 simply outside GEN scenery ACC see.GER be.PST COP.POL.NONPST  
 ‘All I was doing was simply looking at the scenery outside.’

The toritate adverb expressing restriction, *tatta*, can only foreground quantity expressions, as in (68).

- (68) *Tatta hitori no kyoodai ga nakunatta.*  
 merely one.person GEN sibling NOM pass.away.PST  
 ‘My only sibling passed away.’

Toritate adverbs like *toku.ni*, *toriwake*, and *omo.ni* express “prominence”. The toritate adverb *toku.ni* expressing prominence is used in (69). It expresses the meaning, “the most frequently caught fish is saury and no other fish is caught as often as saury.”

- (69) *Kono atari de wa iroiro.na sakana ga*  
 this area LOC TOP various.ADN fish NOM  
*tureru ga, toku.ni saba ga yoku tureru.*  
 be.caught.NONPST but especially saury NOM often be.caught.NONPST  
 ‘A variety of fish are caught around here, but the fish that is caught especially often is saury.’

## 7.2 The syntax of toritate adverbs

Toritate adverbs are basically placed directly before the elements they apply to. In (70a) *toku.ni* puts focus on the immediately following *yama dewa*. In (70b), in which the word order has been changed, the focus is on *tenki no henka ni*

- (70) a. *Toku.ni yama de wa tenki no*  
 especially mountain LOC TOP weather GEN  
*henka ni ki.o.tukete kudasai.*  
 change DAT pay.attention.GER please  
 ‘Please pay attention to changes in the weather, especially in the mountains.’
- b. *Yama de wa toku.ni tenki no*  
 mountain LOC TOP especially weather GEN  
*henka ni ki.o.tukete kudasai.*  
 change DAT pay.attention.GER please  
 ‘Please pay attention in the mountains, especially to changes in the weather.’

However, there are also cases in which *toku.ni* and *toriwake* are placed immediately after the focused element. In (71) the focus is placed not on the immediately following *ki o tukete kudasai*, but on the immediately preceding *tenki no henka ni*.

- (71) *Yama de wa tenki no henka ni*  
 mountain LOC TOP weather GEN change DAT  
*toku.ni ki.o.tukete kudasai.*  
 especially pay.attention.GER please  
 ‘Please pay attention in the mountains, especially to changes in the weather.’

## 8 Topics for future research

This section discusses topics for future research, divided into research on toritate in Japanese and comparative research on toritate in other languages. It further discusses what is needed for future research developments.

### 8.1 Research on toritate in Japanese

Two topics in toritate in Japanese that are in need of more research in the future are listed in (72a) and (72b).

- (72) a. Research on toritate adverbs  
 b. Systematizing the meanings of toritate

(72a) can be expanded as follows: There is an extremely small quantity of research on toritate adverbs compared to toritate particles. There is a need to advance research into the scope of toritate adverbs, conditions on when toritate adverbs are used, and the differentiation in use between toritate adverbs and toritate particles.

(72b) can be expanded as follows: The meanings of individual toritate adverbs have been studied. However, there has been almost no systematization of the meanings of toritate adverbs and particles. There is a need to advance such research in the future.

### 8.2 Comparative research on toritate in other languages

Comparative research on toritate in Japanese and toritate in other languages has not been very actively pursued. Topics in need of further comparative research include those listed in (73a) through (73c).

- (73) a. The meanings shown by toritate forms  
 b. Constraints on predicates co-occurring with toritate forms  
 c. Conditions determining whether toritate forms are used or not

(73a) can be expanded as follows: The meanings expressed by toritate forms, that is, toritate particles and toritate adverbs, differ from language to language. Sometimes a meaning that can be expressed by a toritate form in Japanese cannot be expressed in another language. The reverse also happens, that meanings that can be expressed by toritate forms in other languages cannot be expressed in Japanese. There is a need for future research on the meanings expressed by toritate forms in a variety of languages.

(73b) can be expanded as follows: Sometimes there are constraints on the predicates that co-occur with toritate forms in Japanese. For example, as discussed in 6.1, *sae* showing extremes can be used in a sentence showing quantity but not in one expressing intention. There is a need for future research on the constraints on predicates that co-occur with toritate forms in a variety of languages.

(73c) can be expanded as follows: There are times when, in the same context, Japanese uses a toritate expression but other languages do not. The reverse also happens, that Japanese does not use a toritate expression in some context but other languages do. There is a need for future research on the conditions under which languages do or do not use toritate expressions.

### 8.3 For the development of future research

Research on toritate in Japanese has developed greatly in the past 30 years. Descriptions of the use of and meanings expressed by individual toritate particles in particular have become extremely precise. However, research on toritate in other languages, including English, have not flourished and comparison of toritate in Japanese and other languages is difficult. Because of this, it is difficult in the current state to investigate toritate theoretically, not knowing which of the phenomena observed with regard to toritate in Japanese are pan-linguistic and which are unique to Japanese.

For the sake of the development of future research, it is most important to advance comparative research between Japanese and a variety of other languages. Such comparative research would not only contribute to the development of research on toritate in other languages, it would likely also greatly contribute to research on toritate in Japanese.

In order to advance comparative research on Japanese and other languages, a good start would be to survey how toritate in Japanese and in other languages correspond with each other or even whether they correspond at all. A “parallel corpus”, allowing easy investigation of the correspondence relations between Japanese literary works and translations into other languages and between the literary works of other languages and their translations into Japanese is a necessity. Such a corpus would also be useful in comparative research of grammatical areas other than toritate and its development is earnestly desired.

Along this line, Noda (2015) is a comparative study of toritate in Japanese and Spanish using small-scale “parallel corpus” not available publicly. Furthermore,

Noda (2018 expected), is expected to contain comparative studies of toritate in Japanese and a variety of other languages as well as a clarification of the differences in toritate in Japanese and in the other languages studied.

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Isao Iori

## 5 The layered structure of the sentence

### 1 Introduction

In Japanese, as shown in (1), the stem of a predicate can be followed by a string of morphemes expressing a variety of grammatical meanings.

- (1) *Nezumi ga neko ni oikake -rare -tei -ta -yoo*  
mouse NOM cat DAT chase PASS GER.be PST appearance  
*desu yo*  
COP.NONPST.POL SFP  
'It looks like the mouse was being chased by the cat.'

The order of the morphemes is basically fixed in this case and there is a thought influential in Japanese language studies that this morpheme order is correlated with the process of sentence formation. Viewed from this perspective, the ordering in (1) is called the layered structure of the sentence and has been variously studied within Japanese grammar.

### 2 Studies prior to Minami's model

Serious research clearly related to the layered structure of the sentence first began with MINAMI Fujio. Minami's layered structure has been called the "Minami model" (Onoe 1999a) and has greatly influenced Japanese language research (Noda 1989, 2002; Nitta 1991; Masuoka 1991). However, Minami's research did not spring forth overnight; there was also research that preceded and influenced it. This section will take a brief look at such prior research.

#### 2.1 MIKAMI Akira

Mikami was one scholar prior to Minami who considered Japanese sentence formation to be layered. He proposed that one could measure sentencehood by means of a number of syntactic tests (Mikami 1953, 1955). Linking the sentencehood so measured with inflectional forms, Mikami came up with the following numerical values (Mikami linked inflectional forms to mood, calling the mood expressed by the conclusive form used within a sentence the "conclusive mood" Mikami (1959)). Mikami called these numerical values "degrees of modality".

(2)	Conclusive Mood	(sentence-final)	1
	Conclusive Mood	(sentence-internal)	$\frac{3}{4}$
	Conditional Mood		$\frac{1}{2}$
	Neutral Mood		$\frac{1}{4}$
	Gerundive Mood		0

The lowest degree of modality, having no modality at all, is the the gerundive mood expressing generic tense as in (3).

- (3) *Taberu koto wa taisetu da.*  
 eat NMLZ TOP important COP  
 ‘Eating is important. / It is important to eat.’

The next lowest in degree of modality is the neutral mood shown in (4), which, although it has some degree of modality in that it expresses a concrete action, the degree is weak because it allows tense inheritance as in (4). (The structure of (4) is [[*atarasii huku o ki-*] *te deka-*] *ta*] and the tense of the main clause spreads to [*atarasii huku o ki-*], so (4) ends up meaning “*Atarasii huku o kita. Sosite, dekaketa.*” ‘I put on new clothes. And then, I went out.’)

- (4) *Atarasii huku o kite dekaketa.*  
 new clothes ACC put.on.GER go.out.PST  
 ‘I went out wearing my new clothes.’

Higher than the neutral mood is the conditional mood, which, although it has a higher degree of modality because it does not allow tense inheritance, still has a lower degree of modality in that the tense cannot be explicitly expressed, as shown in (5).

- (5) *Asita ame ga hureba / \*huruba /*  
 tomorrow rain NOM fall.COND fall.NONPST.COND  
*\*huttaba, dekakenai.*  
 fall.PST.COND go.out.NEG.NONPST  
 ‘If it rains tomorrow, I won’t go out.’

Still higher in degree of modality is the sentence-internal conclusive mood, which, although having a high degree of modality in that tense and epistemic modality can be expressed explicitly, is lower than a complete sentence in that politeness and sentence final particles cannot be expressed, as seen in (6).



- (6) *Taroo wa susi o {taberu / tabeta / \*tabemasita /*  
 Taro TOP sushi ACC eat.NONPST eat.PST eat.POL.PST  
*\*tabeta ne} daroo.*  
 eat.PST SFP COP.PRES  
 ‘Taro probably {will eat / has eaten / has eaten (polite) / has eaten, don’t you think} sushi.’

The highest degree of modality, with absolutely no restrictions, is a complete sentence, as seen in (7).

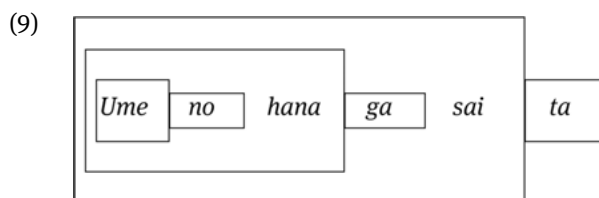
- (7) *Taroo wa Oosaka ni {iku / itta / ikimasu /*  
 Taro TOP Osaka LOC go.NONPST go.PST go.POL.NONPST  
*ikimasita / iku ne / itta ne}.*  
 go.POL.PST go.NONPST SFP go.PST SFP  
 ‘Taro {will go / went / will go (polite) / went (polite) / will go, won’t he / went, didn’t he} to Osaka.’

While aspects of Mikami’s treatment may lack rigor as a syntactic argument, in that he linked the morphological problem of inflections with the *chinjutsu* ‘modality’, which had been discussed ever since Yamada (1908), parts of his treatment are related to part of Minami’s arguments (for views on Japanese inflection, see Watanabe 1971 and Teramura 1984, among others).

## 2.2 TOKIEDA Motoki

Casting a more direct influence on Minami was the research of TOKIEDA Motoki (Tokieda 1950). Tokieda proposed that a sentence is composed of *shi*, which express content objectively and *ji*, which express the speaker’s subjective treatment of the content, and advocated a “nested box” structure in which *shi* are enclosed within *ji*. For example, the structure of (8) would be as shown in (9).

- (8) *Ume no hana ga sai-ta*  
 plum GEN flower NOM bloom-PST  
 ‘The plum flower bloomed.’



Here *ume*, *hana*, and *sai* are *shi* and *no*, *ga*, and *ta* are *ji*. As a single phrase, *ume no hana* expresses a single concept and constitutes the equivalent of a *shi*, to which *ga* attaches. Adding *sai* (the stem of *saku* ‘bloom’) gives *ume no hana ga sai*, the whole of which, as a single meaningful unit, constitutes the equivalent of a *shi*, to which *ta* attaches, illustrating Tokieda’s “nested box” idea.

Tokieda originally took the position that *shi* and *ji* were rigorously distinguished, but later the idea of them forming a continuum appeared. Minami’s layered structure is different from the nested box model, but Tokieda’s influence can be seen in the idea that there is a correlation between how a string of constituents is expanded and sentence formation, which is part of Minami’s own claim.

### 3 MINAMI Fujio’s layered structure

This section discusses Minami’s layered model (Minami 1974, 1993), but concerning how this model should be interpreted, Minami himself wavered and the stance of Minami (1993), which treats semantics as being most important, is close to Mikami’s claims, tying layered structure to the sentence’s degree of modality (Minami himself noted that behind his adoption of this position lay the influence of Hayashi 1960 (Minami 1993). However, it is persuasively argued in Onoe (2016) that it is not appropriate to link this kind of sentence formation theory to Hayashi 1960 and that it cannot be considered appropriate, on this point, to interpret the Minami model as “directly” tied to sentence formation theory.).

On the other hand, Minami’s original theory concerned what kinds of grammatical categories could be contained within subordinate clauses and that itself can be considered a pure syntactic theory. (For detailed arguments concerning the interpretation of the Minami model, see Onoe 1999a 1999b.)

Considering the above, this section will consider Minami’s arguments without linking them to the degree of modality.

Minami divided subordinate clauses into four types (Type A through Type D) depending on what grammatical elements could be included within them.

#### 3.1 Minami’s layered structure model

Looking first at *nagara* clauses expressing ancillary states, it is apparent that they can contain case-marked elements other than those marked by *ga*, manner adverbs, and voice (that *ga*-marked elements cannot be included is clear from the fact that in (10a) neither *Taroo ga*, which is identical to the subject of the main clause, nor *Ziroo ga*, which is different from the subject of the main clause, is allowed).

- (10) a. (\**Taroo ga* / \**Ziroo ga*) *oogoe de uta o utai-nagara*,  
           Taro  NOM  Jiro  NOM  loud.voice INS song ACC sing-*nagara*  
           *Taroo ga heya ni haitte kita.*  
           Taro  NOM  room LOC enter.GER come.PST  
           ‘(\*Taro/\*Jiro) singing a song in a loud voice, Taro came into the room.’
- b. *Dareka ni oikake-rare-nagara, Taroo ga*  
      someone DAT chase-PASS-*nagara* Taro NOM  
      *hey a ni haitte kita.*  
      room LOC enter.GER come.PST  
      ‘Being chased by someone, Taro came into the room.’

On the other hand, as shown by (11), *nagara* clauses cannot contain *ga*-marked elements or any other sentence constituents (topic, aspect, polarity, tense, politeness, *daroo*, interpersonal modality (the # here shows that the intended meaning, ancillary state, is ungrammatical)). Minami called subordinate clauses of the same type as *nagara* clauses “Type A (subordinate clauses)”.

- (11) a. \**Taroo wa uta o utai-nagara*,  
           Taro  TOP  song ACC sing-*nagara*  
           *Taroo ga hey a ni haitte kita.*  
           Taro  NOM  room LOC enter.GER come.PST
- b. *Uta o {#utat-tei-nagara / \*utawa-nai-nagara /*  
      song ACC sing-PROG-*nagara* sing-NEG-*nagara*  
      \**utat-ta-nagara / \*utai-masu-nagara /*  
      sing-PST-*nagara* sing-POL-*nagara*  
      \**utai-daroo-nagara / \*utau-ne-nagara*},  
      sing-PRES-*nagara* sing-SFP-*nagara*  
      *Taroo ga hey a ni haitte kita.*  
      Taro  NOM  room LOC enter.GER come.PST

Looking next at *noni* clauses expressing adversative conjunction, it is clear from (12) that, in addition to all the elements allowed in Type A clauses, *ga*-marked elements, aspect, polarity, and tense can all also be included.

- (12) a. *Ame ga hutte ita noni*,  
           rain NOM fall.GER be.PST in.spite.of.the.fact.that  
           *Taroo wa dekaketa.*  
           Taro  TOP go.out.PST  
           ‘Despite the fact that it was raining, Taro went out.’

- b. *Tenki ga yoku nakatta noni*  
 weather NOM good NEG.PST in.spite.of.the.fact.that  
*Taroo wa dekaketa.*  
 Taro TOP go.out.PST  
 ‘Despite the fact that the weather was not good, Taro went out.’

On the other hand, as shown by (13), topic, *daroo*, and interpersonal modality cannot be included.

- (13) a. *\*Ame wa hutte ita noni,*  
 rain TOP fall.GER be.PST in.spite.of.the.fact.that  
*Taroo wa dekaketa.*  
 Taro TOP go.out.PST  
 ‘Despite the fact that, rain, it was falling, Taro went out.’
- b. *Ame ga {<sub>OK</sub>huru / \*huru-daroo /*  
 rain NOM fall.NONPST fall-PRES  
*\*huru-ne} noni,*  
 fall-SFP in.spite.of.the.fact.that  
*Taroo wa dekaketa.*  
 Taro TOP go.out.PST  
 ‘Despite the fact that {it was going to rain / probably it would rain /  
 it would rain, right}, Taro went out.’

There are cases in which politeness may also be included, but even if the end of the sentence is a polite form, it is not necessary for the embedded clause to have its own polite form (as far as politeness goes, (14a) is sufficient and there is no need to change it to (14b)). Minami called subordinate clauses of the same type as *noni* clauses “Type B (subordinate clauses)”.

- (14) a. *Ame ga hutte iru noni*  
 rain NOM fall.GER be.NONPST in.spite.of.the.fact.that  
*dekakeru no desu ka?*  
 go.out.NONPST NMLZ COP.POL.NONPST Q  
 ‘Are you going out despite the fact that it’s raining?’
- b. *Ame ga hutte imasu*  
 rain NOM fall.GER be.POL.NONPST  
*noni dekakeru no*  
 in.spite.of.the.fact.that go.out.NONPST NMLZ  
*desu ka?*  
 COP.POL.NONPST Q  
 ‘Are you going out despite the fact that it’s raining?’

Continuing on, considering *kedo* clauses, it is clear from (15) that in addition to being able to contain everything that Type B clauses can contain, they can additionally contain topics and *daroo*.

- (15) *Taroo wa kuru daroo kedo,*  
 Taro TOP come.NONPST PRES but  
*Hanako wa konai.*  
 Hanako TOP come.NEG.NONPST  
 ‘Taro will probably come, but Hanako will not come.’

On the other hand, as shown in (16), interpersonal modality cannot be included. Minami called subordinate clauses of the same type as *kedo* clauses “Type C (subordinate clauses)”.

- (16) \**Taroo wa kuru daroo ne kedo,*  
 Taro TOP come.NONPST PRES SFP but  
*Hanako wa konai.*  
 Hanako TOP come.NEG.NONPST

Finally, considering quotative *to* clauses, as is clear from (17), in addition to everything Type C clauses can include, they can also include interpersonal modality. Minami called subordinate clauses of the same type as *to* clauses “Type D (subordinate clauses)”. The only difference between Type D subordinate clauses and independent sentences is that the former are embedded within another clause.

- (17) *Taroo wa “Asita mata koko ni kuru*  
 Taro TOP tomorrow again here LOC come.NONPST  
*ne” to itta.*  
 SFP QUOT say.PST  
 ‘Taro said, “I’ll come here again tomorrow, okay?”’

Also, when the *to* clause shows a direct quotation, it can contain such types of interpersonal modality as imperatives and invitation forms determining the type of the sentence and sentence final particles, as shown in (18).

- (18) *Taroo wa “Asita mata koko ni {koi /*  
 Taro TOP tomorrow again here LOC come.IMP  
*koyoo}” to itta.*  
 come.INT QUOT say.PST  
 ‘Taro said, “[Come / Let’s come] here again tomorrow.”’

In contrast, when the *to* clause shows an indirect quotation (that is, a quotation in which deictic shift has taken place), while such types of interpersonal modality as imperatives and invitations forms that determine sentence type can appear, sentence final particles cannot be included, as shown in (19).

- (19) a. *Watasi wa Taroo ni, yokuzitu mata*  
 I TOP Taro DAT the.next.day again  
*eigakan ni ike to itta.*  
 movie.theater LOC go.IMP QUOT say.PST  
 'I ordered Taro to go to the movie theater again the next day.'
- b. *Watasi wa Taroo ni, yokuzitu mata*  
 I TOP Taro DAT the.next.day again  
*eigakan ni ikoo to itta.*  
 movie.theater LOC go.INT QUOT say.PST  
 'I suggested to Taro that we go to the movie theater again the next day.'
- c. *Watasi wa Taroo ni, {asita / \*yokuzitu} mata*  
 I TOP Taro DAT tomorrow the.next.day again  
*eigakan ni ike yo to itta.*  
 movie.theater LOC go.IMP SFP QUOT say.PST  
 (Acceptable with *asita* 'tomorrow' as a direct quotation.)  
 'I ordered Taro, "You to go to the movie theater again <sub>OK</sub>tomorrow/  
 \*the next day!'

Next, in a series of multiple subordinate clauses, each clause can contain a clause of the same or higher degree of subordination but cannot contain a clause with a lower degree of subordination. For example, a Type B clause can contain a Type A clause, but not vice versa. Thus, (20) is grammatical. Also, (21) can only be interpreted as meaning (22a), not as (22b).

- (20) [<sub>B</sub> [<sub>A</sub> *uta o utai-nagara*] *aruitara*],  
 song ACC sing-nagara walk.COND  
*dentyuu ni butukatta.*  
 utility.pole DAT run.into.PST  
 'Walking along, sing a song, I walked into a utility pole.'

- (21) *Marason-sensyu ga koko o toottara*  
 marathon-runner NOM here PATH pass.COND  
*uta o utai-nagara hata o huroo.*  
 song ACC sing-nagara flag ACC wave.INT

- (22) a. [<sub>B</sub> *Marason-sensyu ga koko o toottara*] [[<sub>A</sub> *uta o utai-nagara*]  
*hata o huro*] *o*  
 ‘Let’s wave a flag singing a song when the marathon runners pass here.’
- b. \*[[<sub>A</sub> [<sub>B</sub> *Marason-sensyu ga koko o toottara*]<sub>B</sub>] *uta o utai-*] *nagara*  
*hata o huroo*  
 ‘Let’s wave a flag when the marathon runners pass here singing a song.’

Minami’s treatment of subordinate clauses outlined here has gained wide acceptance as a way to view subordinate clauses in Japanese.

### 3.2 TAKUBO Yukinori’s revision of the Minami model

Minami’s layered model gained wide acceptance, but proposals were made for revision of parts of it. While basically accepting the Minami model, Takubo proposed a number of revisions (Takubo 1987).

The first revision concerned *ga*-marked elements. Minami located all *ga*-marked elements as first being able to appear with Type B clauses, but, as can be seen from (23), there are cases when they are included in Type A clauses. The *ga*-marked element is restricted to non-volitional things in this case.

- (23) [*Koori ga tokeru*] *yoo ni*,  
 ice NOM melt.NONPST appearance DAT  
*reizooko no soto ni dasite oita.*  
 refrigerator GEN outside LOC set.out.GER place.PST  
 ‘I set the ice outside the refrigerator so it would melt.’

The clauses in which *ga*-marked elements can appear have no tense opposition and express generic events that are not time-limited. In contrast, in a Type B clause as in (24), there is a tense opposition and the clause expresses a time-limited event.

- (24) [*Koori ga toketa*] *tame.ni, teeburu no*  
 ice NOM melt.PST since table GEN  
*ue ga mizubitashi ni natta.*  
 top NOM soaked DAT become.PST  
 ‘Because the ice melted, the table top got soaked.’

This difference between Type A and Type B clauses also appears in the distribution of zero pronouns. For example, while zero pronouns can appear in Type A clauses, they are limited to the nominative, and, moreover, the clause is interpreted generically, as in (25), or they refer to an element in the same sentence, as in (26). Reference to a contextual antecedent outside the sentence is impossible.

- (25) [ $\phi$  (ga) aruku] koto wa kenkoo ni yoi.  
 walk.NONPST NMLZ TOP health DAT good.NONPST  
 'Walking is good for one's health.'
- (26) Taroo wa [ $\phi$  (ga) iku] koto o yakusoku sita.  
 Taro TOP go.NONPST NMLZ ACC promise do.PST  
 'Taro promised to go.'

In contrast, when zero pronouns appear in Type B clauses, they are not limited to the nominative case, as seen in (27). Also, as can be seen from (27) and (28), zero pronouns in such clauses can refer anaphorically to a contextual antecedent.

- (27) [Taroo ga  $\phi$  (o) katta] koto ga wakatta.  
 Taro NOM buy.PST NMLZ NMLZ find.out.PST  
 '(I) could tell that Taro had bought it.'
- (28) [ $\phi$  (ga) kita] noni, Taroo wa kaettyatta?  
 come.PST in.spite.of.the fact.that Taro TOP end.up.going.home.PST  
 'Did Taro go home even though (someone) had come?'

The next problem Takubo pointed out is that of the location of focus.

In Japanese, as a general rule, the scope of the question particle *ka* or of negation is limited to the constituent immediately preceding it. For example, in (29) and (30), *kare ga kanemoti dakara* 'because he's rich' is outside the scope of *ka* or the negation. Thus, (29) is unnatural and (30) does not express the meaning intended here, 'The reason I married him is not because he's rich.'

- (29) ??*kare ga kanemoti da kara kekkon simasita ka.*  
 he NOM rich COP because marry do.POL.PST Q  
 '(intended) Did you marry him because he's rich?'
- (30) #*kare ga kanemoti da kara kekkon sinakatta.*  
 he NOM rich COP because marry do.NEG.PST  
 '(intended) It's not because he's rich that I married him.'  
 '(acceptable) Because he's rich, I didn't marry him.'

In order to include the *kara* clauses of (29) and (30) in the scope of *ka* or the negation, it is necessary to explicitly expand the scope by the use of the nominalizer *no*, as in (31) and (32) (Kuno 1983; Takubo 1985).



- (31) *Kare ga kanemoti da kara kekkon*  
 he NOM rich COP because marry  
*sita no desu ka?*  
 do.PST NMLZ COP.POL.NONPST Q  
 ‘Was it because he’s rich that you married him?’

- (32) *Kare ga kanemoti da kara kekkon*  
 he NOM rich COP because marry  
*sita no dewa.arimasen.*  
 do.PST NMLZ COP.POL.NEG.NONPST  
 ‘It’s not because he’s rich that I married him.’

*Kara* has two uses, one to express the cause or reason for an action or event, as in (33), and the other to show the basis for a judgement, as in (34).

- (33) *Ronbun de isogasii kara, kare wa*  
 paper INS busy.NONPST because he TOP  
*paatii ni konakatta no daroo.*  
 party LOC come.NEG.PST NMLZ COP.PRES  
 ‘It’s probably because he’s busy with his paper that he didn’t come to the party.’

- (34) *Miti ga nurete iru kara, ame ga*  
 road NOM be.wet.GER be.NONPST because rain NOM  
*hutta no daroo.*  
 fall.PST NMLZ COP.PRES  
 ‘It must have rained, since the road is wet.’

Whether *kara* expresses “cause/reason” or expresses “basis for a judgment” can be tested for by restating *P kara*, *Q* ‘P, therefore Q’ to *Q no wa P kara da* ‘the fact that Q is because P’. When such a restatement is possible, as in (35), the *kara* clause shows “cause/reason” and when it cannot, as in (36), it shows “basis for a judgement”.

- (35) *Kare ga paatii ni konakatta no wa,*  
 he NOM party LOC come.NEG.PST NMLZ TOP  
*ronbun de isogasii kara daroo.*  
 paper INS busy.NONPST because COP.PRES  
 ‘The fact that he didn’t come to the party is probably because he was busy with his paper.’

- (36) ?*Ame ga hutta no wa, miti ga nurete*  
 rain NOM fall.PST NMLZ TOP road NOM be.wet.GER  
*iru kara daroo.*  
 be.NONPST because COP.PRES  
 ‘The fact that it rained is probably because the road is wet.’

For example, the *kara* clause in (37), below, shows “cause/reason” and that in (38) shows “basis for a judgement”.

- (37) *Kare ga kita kara kanozyo wa*  
 he NOM come.PST because she TOP  
*paatii ni kita no desyoo.*  
 party LOC come.PST NMLZ COP.POL.PRES  
 ‘It’s probably because he came that she came to the party.’

- (38) (*Kanozyo wa kare no daifan desu.*)  
 she TOP he GEN great.fan COP.POL  
*Kare ga kanzi da kara, kanozyo wa*  
 he NOM organizer COP because she TOP  
*paatii ni kuru desyoo.*  
 party LOC come.NONPST COP.POL.PRES  
 ‘(She’s a huge fan of his.) Since he’s the organizer, she’ll probably come to the party.’

*-Tara* clauses are Type B and *kedo* clauses are Type C; as shown in (39) and (40), *tara* clauses allow question words while *kedo* clauses do not. In general, question words constitute a focus location. From this fact, Takubo concluded that Type B clauses can become the focus of a question, but that Type C clauses cannot.

- (39) *Dare ga kitara, anata wa paatii ni syusseki*  
 who NOM come.COND you TOP party LOC attend  
*simasu ka.*  
 do.POL.NONPST Q

‘(lit) If who came would you attend the party?’  
 ‘Whose coming would get you to attend the party?’

- (40) \**Dare ga kuru kedo. anata wa*  
 who NOM come.NONPST but you TOP  
*paatii ni syusseki simasen ka*  
 party LOC attend do.POL.NEG.NONPST Q  
 ‘Who will come, but you will not attend the party?’

- Cf. (41) *Tanaka-san wa kuru kedo anata wa*  
 Tanaka-Mr TOP come.NONPST but you TOP  
*paatii ni syusseki simasen ka.*  
 party LOC attend do.POL.NEG.NONPST Q  
 ‘Mr. Tanaka is coming, but you will not attend the party?’

Considering *kara* clauses in the light of the observations above, a *kara* clause showing “cause/reason” can become the focus location, but a *kara* clause showing “basis for a judgement” cannot, as shown by (42) and (43). This argues that the former is a Type B clause and the latter a Type C.

- (42) *Dare ga kita kara kanozyo wa*  
 who NOM come.PST because she TOP  
*paatii ni kita no desu ka.*  
 party LOC come.PST NMLZ COP.POL.NONPST Q  
 ‘(lit) Who did she come to the party because (he) came?’

- (43) ??*Dare ga kanzi da kara*  
 who NOM organizer COP.NONPST because  
*kanozyo ga paatii ni kimasu ka.*  
 she NOM party LOC come.POL.NONPST Q  
 ‘(lit) Since who is organizer will she come to the party?’

An explanation of the concepts of “restrictive” and “non-restrictive” will help in interpreting the facts above.

First, consider Type B and Type C subordinate clauses.

- (44) [*Kare ga kita kara kanozyo ga*  
 he NOM come.PST because she NOM  
*kita*] *no dewanai.*  
 come.past NMLZ COP.NEG.NONPST  
 ‘It’s not the case that she came because he came.’
- (45) [*Kare wa kita ga*] *kanozyo wa konakatta.*  
 he TOP come.PST but she TOP come.NEG.PST  
 ‘He came but she did not come.’

Since in (44) the *kara* clause limits the reasons for her coming, it is restrictive. On the other hand, the *ga* clause in (45) imposes no such limitation and is therefore non-restrictive.

The same kind of relationship is also found in modifying clauses (Miyake 1995). For example, the functions of the modifying clauses enclosed in square brackets, are different. In (46) *Reonarudo Da Binti ga kaita* ‘Leonardo Da Vinci painted’ defines a proper subset of the set of *e* ‘pictures’ (and, therefore, the cognitive meaning changes if the clause is elided), but in (47) *Reonarudo Da Binti ga kaita* ‘Leonardo Da Vinci painted’ has no such function (and, therefore, the cognitive meaning of the sentence as a whole hardly changes if the clause is elided). The former kind of modifying clause is called a “restrictive modifying clause” and the latter a “non-restrictive modifying clause”.

- (46) *Hakubutukan ni [Reonarudo Da Binti ga kaita]*  
 museum LOC Leonardo Da Vinci NOM draw.PST  
*e ga tenzi sarete iru.*  
 picture NON display do.PASS.GER be.NONPST  
 ‘Paintings painted by Leonardo Da Vinci are displayed in the museum.’

- (47) *Hakubutukan ni [Reonarudo Da Binti ga kaita]*  
 museum LOC Leonardo Da Vinci NOM drew  
*Mona Risa ga tenzi sarete iru.*  
 Mona Lisa NOM display do.PASS.GER be.NONPST  
 ‘The *Mona Lisa*, painted by Leonardo Da Vinci, is displayed in the museum.’

From these considerations, we can conclude the following: A restrictive modifying clause like (46) can be the location of question focus but a non-restrictive modifying clause like (47) cannot.

- (48) *Dare ga kaita e ga ureta*  
 who NOM draw.PST picture NOM sell.PST  
*no desu ka.*  
 NMLZ COP.POL.NONPST Q  
 ‘(lit) Who is that the pictures (he) painted sold?’
- (49) \**Dare ga kaita sono e ga ureta*  
 who NOM draw.PST that picture NOM sell.PST  
*no desu ka.*  
 NMLZ COP.POL.NONPST Q  
 ‘(lit) Who is that that picture, which (he) painted, sold?’

- Cf. (50) *Taroo ga kaita sono e ga*  
 Taro NOM draw.PST that picture NOM  
*ureta no desu ka*  
 sell.PST NMLZ COP.POL.NONPST Q  
 ‘Is it the case that that picture, which Taro painted, sold?’

## 4 Layered structure from the perspective of the process of sentence formation

Minami’s layered model is a highly original study grounded in the linguistic facts of the Japanese language, but views from the perspective of a theory of sentence formation and based on a different sort of linguistic reality that are somewhat different from the Minami model have since been proposed. This section introduces two such other views.

### 4.1 MASUOKA Takashi

Masuoka’s study is the first to be introduced (Masuoka 1991, 1997). From the perspective of the conceptual levels expressing the stages in sentence formation, Masuoka divided the sentence broadly into two levels: the proposition level, which is concerned with the objective content, and the modality level, which is concerned with the speaker’s attitude toward the proposition.

The proposition level is further divided into the “event-naming” level and the “phenomenon level”. The event-naming level presents an event generically, without tense. The phenomenon level, on the other hand, has tense opposition and presents an individuated event.

The modality level is further divided into a “judgement level” that expresses the speaker’s subjective judgement concerning the event and an “expression-communication” level that is related to the speech acts conveying the speaker’s judgment to the hearer.

Masuoka held that these four levels are also to be found in subordinate clauses.

First, event-naming level subordinate clauses, such as (51), have no tense opposition and present an event generically. The subordinate clause *ame ga huru koto* in this case simply expresses the template of the event of “rain falling”.

- (51) *Ame ga huru koto wa syokubutu no*  
 rain NOM fall.NONPST NMLZ TOP plants GEN  
*seityoo nitotte zyuyyoo da.*  
 growth for important COP.NONPST  
 ‘Rain (lit. rain falling) is important for plants’ growth.’

The form in which *huru* appears in (51) is its dictionary form, but it expresses no opposition vis-à-vis the past tense *ta* form. In fact, if *huru* is changed to *hutta* ‘fall.PST’, the subordinate clause *ame ga hutta koto* would mean that rain had fallen at a certain point in time and would lose its temporal permanence.

- (52) *Ame ga hutta koto wa syokubutu no*  
 rain NOM fall.PST NMLZ TOP plants GEN  
*seityoo nitotte zyuyyoo.da.*  
 growth for important.NONPST  
 ‘That it rained is important for the plants’ growth.’

The *zyuyyoo da* of the main clause in (51) also shows temporal permanence in its dictionary (non-past) form, but, as seen in (53) and (54), this is because adjectives often express temporal permanence when used in their non-past forms and this fact should be considered separately from the argument being made here.

- (53) *Zoo wa hana ga nagai.*  
 elephant TOP nose NOM long  
 ‘The elephant’s trunk is long.’

- (54) *Mori no asa wa sizuka.da*  
 forest GEN morning TOP quiet.NONPST  
 ‘The morning is silent in the forest.’

In contrast, phenomenon-level subordinate clauses are clauses that have tense opposition and show individuated events, as shown in (55). The *ame ga hutta koto* in this case shows that template of “rain falling” is realized at a particular time.

- (55) *Ame ga hutta koto ga akiraka ni natta.*  
 rain GEN fall.PST NMLZ NOM clear DAT become.PST  
 ‘It became clear that it had rained.’

On the other hand, modality expressions showing the speaker’s subjective judgement can appear in a judgement-level subordinate clause, as shown in (56).

- (56) *Ame ga huru yoo da kara,*  
 rain NOM fall appearance COP.NONPST because  
*kasa o motte ikinasai.*  
 umbrella ACC take.GER go.IMP  
 ‘Since it looks like it’s going to rain, take an umbrella.’

Finally, modality expressions related to expression and communication can appear in expression-communication level subordinate clauses, as shown in (57)

- (57) *Kare wa “Asita wa ame ga huru*  
 he TOP tomorrow TOP rain NOM fall.NONPST  
*kamosirenai ne” to itta.*  
 for.all.I.know SFP QUOT say.PST  
 ‘He said, “It may rain tomorrow, don’t you think?”

These four levels of subordinate clauses may look like they correspond to Minami’s Types A–D. In fact, however, although there is indeed a certain degree of correlation between them, they are different concepts.

For example, *ga*-marked elements first appear in Type B subordinate clauses in Minami’s model, but in Masuoka’s approach, as can be seen from (58), *ga*-marked elements belong to the event-naming level. This is because, even though the event-naming level presents only generic events without any tense opposition, it is also a level that includes all the elements necessary to express the event (all elements affiliated with the event except tense). A similar observation is found in Onoe 1999a, 1999b.

- (58) *Oya ga kodomo no kyooiku ni tikara*  
 parent NOM child GEN education DAT strength  
*o ireru koto wa toozen da.*  
 ACC insert.NONPST NMLZ TOP of.course COP.NONPST  
 ‘It’s natural that parents would put their energies into their child’s education.’

Setting up these four levels of subordinate clauses allows the explanation of several linguistic phenomena in Japanese. One such phenomenon concerns conditional expressions in Japanese.

Representative linguistic forms expressing conditionals in Japanese are the four forms *-to*, *-ba*, *-tara*, and *-nara* (in addition to these, there are secondary conditional expressions in which these are used as complex affixes). Of these, leaving *to* aside as its original function was not as a conditional expression, *ba*, *tara*, and *nara* can be considered to be associated with the event-naming level, the phenomenon level, and the judgement level, respectively.

Beginning with *ba*, as shown in (59), it shows generic conditions without any tense, that is, it can be considered to basically express conditionals for which the truth value is not determined in some specified temporal environment.

- (59) *Tiri mo tumoreba yama to naru.*  
 dust even pile.up.PROV mountain QUOT become.NONPST  
 ‘(proverb) Even dust if it piles up, makes a mountain.’

On the other hand, *tara* can be considered to basically express a condition that is situated with respect to some specified time, as shown in (60).

- (60) *Asita ame ga huranakattara, haikingu ni iku.*  
 tomorrow rain NOM fall.NEG.COND hiking DAT go.NONPST  
 'If it doesn't rain tomorrow, I'll go hiking.'

In contrast, *nara* can be considered to basically make a statement assuming an event to be true, as shown in (61).

- (61) *Kare ga kuru no nara, watasi mo*  
 he NOM come, NONPST NMLZ PROV I also  
*paatii ni sanku suru*  
 party DAT participate do. NONPST  
 'If it's the case that he is going to come, I'll join the party, too.'

This difference in levels of conditional expressions has also been pointed out for English in Sweetser (1990), but it is interesting that, in contrast to English where these differences are merely differences in usage, in Japanese conditionals the differences appear as different forms.

As shown in (62) and (63), "reciprocal interchanges" are frequently observed in which *ba* is used to express a condition situated at a particular time and *tara* is used to express a generic condition.

- (62) *Asita ame ga huranakereba, haikingu ni iku.*  
 tomorrow rain NOM fall.NEG.PROV hiking DAT go.NONPST  
 'Provided it doesn't rain tomorrow, I'll go hiking.'
- (63) *Haru ni nattara, sakura ga saku.*  
 spring DAT become.COND cherry NOM bloom.NONPST  
 'When spring comes, the cherry blossoms bloom.'

However, this kind of mutual interchange occurs only within the proposition level and does not occur between the proposition level and the modality level. That is, as can be seen in (64) and (65), *nara* cannot be used at the event-naming level or the phenomenon level ((65) is grammatical in the situation that at the time of speech it is known that it will not rain the following day, which is different from the meaning of (60)).

- (64) \**Tiri mo tumoru nara, yama to naru.*  
 dust even pile.up. NONPST PROV mountain QUOT become. NONPST  
 'If it is the case that even dust piles up, it makes a mountain'



- (65) #*Asita ame ga huranai nara,*  
 tomorrow rain NOM fall.NEG.NONPST PROV  
*haikingu ni iku.*  
 hiking DAT go.NONPST  
 ‘If it is the case that it won’t rain tomorrow, I’ll go hiking.’

Also, as can be seen from (66), neither *ba* nor *tara* is used at the judgement level ((66) is grammatical in case it is known at the time the party is held (in the future with respect to the time of speech) that the proposition “he will come” is true, which is different from the meaning of (61)).

- (66) #*Kare ga {kureba / kitara}, watasi mo*  
 he NOM come,PROV come.COND I also  
*paatii ni sanku suru*  
 party DAT participate do.NONPST  
 ‘[Provided that he is coming/If he is coming], I’ll join the party, too.’

Masuoka also pointed out that, in addition to the conceptual levels of a sentence, it is also necessary to consider the “degree of subordination of subordinate clauses”.

In addition to its use as a conditional, shown in (67), *tara* also has what has been termed by Hasunuma (1993), among others, a “factual use”, shown in (68).

- (67) *Suupaa de itigo ga urarete itara, kaoo.*  
 supermarket LOC strawberries NOM sell.PASS.GER be.COND buy.INT  
 ‘If strawberries are being sold at the supermarket, let’s buy some.’

- (68) *Suupaa ni ittara, itigo ga urikirete ita.*  
 supermarket LOC go.COND strawberries NOM sell.out.GER be.PST  
 ‘When I went to the supermarket, the strawberries were sold out.’

Here, the semantic relation between the events is closer in the case in which it expresses a condition than in the case of the factual use. In Masuoka (1997), he defines this as the former showing a higher degree of subordination by the subordinate clause to the main clause than the latter.

With this definition in mind, consider the following examples.

- (69) *Sono toki, anata wa nani o kikinagara*  
 that time you TOP what ACC listen.nagara  
*aruite ita no desu ka.*  
 walk.GER be.PST NMLZ COP.POL.NONPST Q  
 ‘What were you listening to as you were walking that time?’

- (70) ?*Sono toki, anata wa nani o sitte inagara*  
 that time you TOP what ACC know.GER be.nagara  
*watasi ni kakusite ita no desu ka.*  
 I DAT hide.GER be.PST NMLZ COP.POL.NONPST Q  
 ‘What did you hide from me although you knew it that time?’

- Cf. (71) *Sono toki, anata wa sono zizitu o sitte*  
 that time you TOP that fact ACC know.GER  
*inagara watasi ni kakusite ita no*  
 be.nagara I DAT hide.GER be.PST NMLZ  
*desu ka.*  
 COP.POL.NONPST Q  
 ‘Is it the case that, although you knew that fact, you hid it from me that time?’

Comparing (69) and (70), the *nagara* clause in (69) showing ancillary state is within the scope of the question particle *ka*, but the *nagara* clause in (70) showing adversative conjunction is not easily included within the scope of *ka*. Considering just these examples, it may appear as though whether or not something is included within the scope of *ka* is a matter of the difference of cognitive level (the event-naming level being more easily included than the phenomenon level).

However, even though the *tara* clauses in (72) and (73) are both at the phenomenon level, there is still a difference in the case with which they can be interpreted as being within the scope of *ka*.

- (72) *Syatyoo wa, watasi ga nani o sitara*  
 company.president TOP I NOM what ACC do.COND  
*manzoku suru no desu ka.*  
 satisfied do.NONPST NMLZ COP.POL.NONPST Q  
 ‘The company president, what is it the case that he would he be satisfied if I did?’

- (73) ?*Kare ga nani o ositara, ookina oto ga*  
 he NOM what ACC push.COND big.ADN sound NOM  
*sita no desu ka.*  
 do.PST NMLZ COP.POL.NONPST Q  
 ‘What is it the case that when he pushed (it), it made a loud noise?’

- Cf. (74) *Kare ga kono botan o ositara, ookina oto*  
 he NOM this button ACC push.COND big.ADN sound  
*ga sita no desu ka.*  
 NOM do.PST NMLZ COP.POL.NONPST Q  
 ‘Is it the case that when he pushed this button, it made a loud noise?’

Considering these examples, it is clear that what decides whether or not something is within the scope of *ka* is not the cognitive level but the “degree of subordination of subordinate clauses”.

Masuoka’s research, as seen above, further developed Minami’s model, which was basically a syntactic one, and reanalyzed subordinate clauses from the perspective of levels in a semantic typology of types of event prehension, which can be thought to have great implications for language typology theory.

## 4.2 NODA Hisashi

Noda is another researcher who has made his own original claims while at the same time retaining a certain connection with the Minami model. Of his research, the correlation between subordinate clauses and the grammatical categories expressed by the predicate is taken up here (Noda 1989, 2002).

Since, as is clear from (75), a *nagara* clause showing ancillary state fits well with a stative aspect but not so well with a non-stative aspect, it can be said to correlate with stative aspect.

- (75) a. *Terebi o minagara, gohan o tabete iru.*  
 television ACC see.*nagara* meal ACC eat.GER be.NONPST  
 ‘(He) is eating watching television.’  
 b. *?Terebi o minagara, gohan o tabe-hazimeru.*  
 television ACC see.*nagara* meal ACC eat-begin.NONPST  
 ‘(He) starts eating watching television.’

*Zu.ni* ‘without ... ing’ is correlated with polarity. As shown in (76), *zu.ni* fits well with an affirmative form but does not fit with a negative form.

- (76) a. *Kare wa naiyoo o yoku mizu.ni,*  
 he TOP content ACC well look.at.*zu.ni*  
*sono hon o katta.*  
 that book ACC buy.PST  
 ‘He bought that book without thoroughly looking at its content.’

- b. \**Kare wa naiyoo o yoku mizu.ni,*  
 he TOP content ACC well look.at.zu.ni  
*sono hon o kawanakatta.*  
 that book ACC buy.PST

'He didn't buy that book without thoroughly looking at its content.'

*Ba* is correlated with tense. As shown in (77), *ba* fits well with the non-past tense, but it does not fit well with the past tense. ((77b) is only grammatically interpreted as expressing a counterfactual condition and is difficult to interpret in the same meaning as (78). Also, when expressing a counterfactual condition, it is common for the main clause (and the subordinate clause as well) to include the *-te-i-* 'progressive or resultant state' form.)

- (77) a. *Mado o akereba, Huzisan ga mieru.*  
 window ACC open.PROV Mt. Fuji NOM be.visible.NONPST  
 'If you open the window, you can see Mt. Fuji.'

- b. #*Mado o akereba, Huzisan ga mieta.*  
 window ACC open.PROV Mt. Fuji NOM be.visible.PST  
 'If you opened the window, you could have seen Mt. Fuji.'

- Cf. (78) *Mado o {aketara / akeruto},*  
 window ACC open.COND open.COND  
*Huzisan ga mieta.*  
 Mt. Fuji NOM be.visible.PST

'When (I) opened the window (I) could see Mt. Fuji.'

- (79) *Mado o ake (te-i) reba, Huzisan ga*  
 window ACC open GER-be PROV Mt. Fuji NOM  
*miete ita.*  
 be.visible.GER be.PST

'If you had opened the window, Mt. Fuji would have been visible.'

The *tara* and *to* showing conditions are also correlated with tense. (80b) is ungrammatical as a conditional sentence. As shown by (81a), *tara* and *ba* share the fact that they become grammatical as counterfactual conditions, but *to* (normally) does not have a counterfactual condition use.

- (80) a. *Mado o {aketara / akeruto},*  
 window ACC open.COND open.COND  
*Huzisan ga mieru.*  
 Mt. Fuji NOM be.visible.PST

'If you open the window, you can see Mt. Fuji.'

- b. #*Mado o {aketara / akeruto}*.  
 window ACC open.COND open.COND  
*Huzisan ga mieta.* (=78)  
 Mt. Fuji NOM be.visible.PST  
 ‘When (I) opened the window (I) could see Mt. Fuji.’

- (81) a. *Mado o ake (te-i) tara, Huzisan*  
 window ACC open GER-be COND Mt. Fuji  
*ga miete ita.*  
 NOM be.visible.GER be.PST  
 ‘If you had opened the window, Mt. Fuji would have been visible.’

- b. \**Mado o ake (te-i) ruto,*  
 window ACC open GER-be NONPST.COND  
*Huzisan ga miete ita.*  
 Mt. Fuji NOM be.visible.GER be.PST  
 ‘If you had opened the window, Mt. Fuji would have been visible.’

On the other hand, *node* and *kara* showing reasons are correlated with epistemic modality. As shown in (82), *node* and *kara* showing reasons fit well with unmarked modality (assertion) forms but do not fit well with a marked modality showing judgement. Although (82b) is ungrammatical and (83) is grammatical, the *node* and *kara* clauses in (83) do not show reasons but show a basis for a judgement. In other words, the *node* and *kara* clauses in (83) are not included in the scope of *daroo*. (84) shows the meaning intended in (82b), that *node* and *kara* clauses showing reasons be included in the scope of *daroo* (cf. (35)–(40)).

- (82) a. *Sakki ame ga hutta {node / kara}*  
 earlier rain NOM fall.PST  
*suzusiku natta.*  
 cool.ADV become.PST  
 ‘It cooled down because it rained earlier.’
- b. ?*Sakki ame ga hutta {node / kara}*  
 earlier rain NOM fall.PST  
*suzusiku natta daroo*  
 cool.ADV become.PST PRES  
 ‘Probably it cooled down because it rained earlier.’

- Cf. (83) *Sakki ame ga hutta {node / kara}*  
 earlier rain NOM fall.PST  
*suzusiku naru daroo*  
 cool.ADV become.NONPST PRES  
 ‘Since it rained earlier, it will probably cool down.’

- (84) *Sakki ame ga hutta {node / kara}*  
 earlier rain NOM fall.PST  
*suzusiku natta no daroo*  
 cool.ADV become.PST NMLZ PRES  
 ‘It’s probably the case that it cooled down because it rained earlier.’

Since, in contrast to the grammatical (85a), (85b) is ungrammatical in the factual use ((85b) is grammatical as a counterfactual condition), it is clear that the factual use of *tara* and *to* clauses is correlated with epistemic modality.

- (85) a. *Mado o {aketara / akeruto}*  
 window ACC open.COND open.COND  
*Huzisan ga mieta.*  
 Mt. Fuji NOM be.visible.PST  
 ‘When I opened the window, Mt. Fuji was visible.’
- b. #*Mado o {aketara / akeruto}*  
 window ACC open.COND open.COND  
*Huzisan ga mieta daroo.*  
 Mt. Fuji NOM be.visible.PST PRES  
 ‘If I had opened the window, Mt. Fuji would probably have been visible.’

*Ga* clauses are correlated with interpersonal modality. As shown by (86), *ga* fits well with the unmarked modality form, but not with the *ka* of an interrogative sentence.

- (86) a. *Kankyoo wa ii ga,*  
 environment TOP good.NONPST but  
*huben desu.*  
 inconvenient COP.POL.NONPST  
 ‘The environment is good, but it’s inconvenient.’
- b. ?*Kankyoo wa ii ga,*  
 environment TOP good.NONPST but  
*huben desu ka*  
 inconvenient COP.POL.NONPST Q  
 ‘Is the environment good, but it’s inconvenient.’

It is similarly clear from (87) that *node* and *kara* clauses expressing the basis for a judgement are correlated with interpersonal modality.

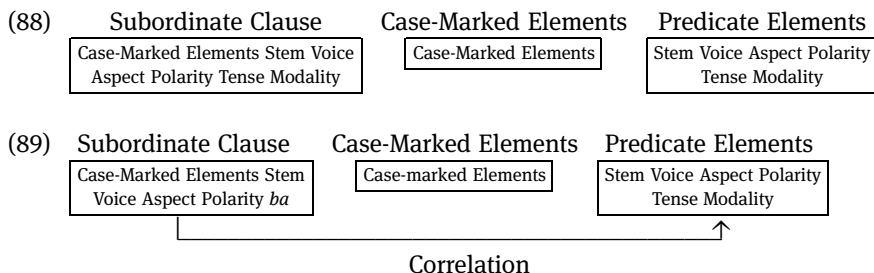
- (87) a. *Sora ga kumotte iru* {*node* / *kara*}  
 sky NOM cloudy be.NONPST  
*mousugu ame ga hurimasu.*  
 soon rain NOM fall.POL.NONPST  
 ‘It will rain soon because the sky is cloudy.’
- b. ?*Sora ga kumotte iru* {*node* / *kara*}  
 sky NOM cloudy be.NONPST  
*mousugu ame ga hurimasu ka.*  
 soon rain NOM fall.POL.NONPST Q  
 ‘Will it rain soon because the sky is cloudy?’

Here, as seen in section 3, there is a hierarchical relation among the grammatical categories and the respective subordinate clauses in which they can be used.

	Stem	Voice (rare)	Aspect (-te-i-)	Polarity (nai)	Tense (ta)	Epistemic Modality (daroo)	Interpersonal Modality (ka)
<i>nagara</i>	○	○	×	×	×	×	×
<i>zu.ni</i>	○	○	○	×	×	×	×
<i>ba/tara/to</i> (conditional)	○	○	○	○	×	×	×
<i>node/kara</i> (reason)	○	○	○	○	○	×	×
<i>tara/to</i> (factual use)	○	○	○	○	○	×	×
<i>node/kara</i> (basis for judgement)	○	○	○	○	○	○	×
<i>ka</i>	○	○	○	○	○	○	×

From this table and the facts observed above, it is clear that each clause can include all the grammatical categories up to one before the level with which it is correlated but cannot contain any grammatical categories from the level it is correlated with or later categories.

The relation between the subordinate clauses considered here and the grammatical categories expressed by the predicate can also be represented as in (88) and (89), below.



(89) shows that *ba* is correlated with the tense layer.

In addition, Noda (2002) provides a relativized treatment of the relations among simple sentences, complex sentences, discourse, and text at various levels.

To a certain degree, Noda's work overlaps the Minami model, but it can be said to be a dynamic approach more clearly tying together subordinate clauses and layers of sentence structure. Moreover, by setting parts related to sentence structure, like tense and nominative case, as the vertical axis and looking at all subordinate clauses, he has succeeded in more clearly drawing out the characteristics of subordinate clauses. The approach here, tying together subordinate clauses and layers of the sentence structure, has also had a large influence on recent studies from the perspective of cartography.

## 5 Recent research

Above, this chapter has presented an overview of research from Japanese language studies related to the layered structure of sentences. In this final section, research based on cartography is introduced as the most recent research from the perspective of generative grammar (cf. Endo 2014).

“Cartography” is short for “the cartography of sentence structure” and means a map of syntactic structure. Cartography is an attempt to account for the layered structure of language, focusing on the function words that form the framework of natural language, and to clarify the universality of the layered structure observed in sentence function words.

For example, the underlined portion of (90) has the structure shown in (91).

- (90) *Taroo wa kare ni hinaru sarete inakatta daroo.*  
 Taro TOP he DAT criticize do.PASS.GER be.NEG.PST PRES  
 ‘Taro was probably not criticized by him.’



- (91) *hihan* + *sare* + *te-i* + *nakat* + *ta* + *daroo*  
 criticize do.PASS GER-be NEG PST PRES

The elements of (91) are then linked (merged) by pairing with the closest element, forming one level, which is in turn merged with the next closest element to form a higher level.

- (92) a. [Voice Level predicate voice]  
 b. [Aspect Level [predicate voice] aspect]  
 c. [Polarity Level [[predicate voice] aspect] polarity]  
 d. [Tense Level [[[predicate voice] aspect] polarity] tense]  
 e. [Mood Level [[[[predicate voice] aspect] polarity] tense] mood]

Let us examine the problem of what elements a subordinate clause can include within it from the perspective of cartography.

As observed in section 3, a *nagara* clause can include categories up to voice, but cannot include elements from aspect on. On the other hand, in 4.2 the *nagara* clause was said to be correlated with the aspect level.

From the perspective of cartography, the fact that a *nagara* clause is correlated with aspect is expressed by generating the *nagara* clause in the specifier position of the aspect level of the main clause. In this position, the *nagara* clause is checked against the main clause aspect features. In this case, if the main clause aspect feature is “in process”, as in (93a), it is grammatical, but, if it is “initiating”, then it is not permitted and it sounds awkward.

- (93) a. *Taroo wa terebi o minagara*  
 Taro TOP television ACC watch.*nagara*  
*gohan o tabete iru.*  
 meal ACC eat.GER be.NONPST  
 ‘Taro is eating watching television.’  
 b. ?*Taroo wa terebi o minagara*  
 Taro TOP television ACC watch.*nagara*  
*gohan o tabehazimeru*  
 meal ACC eat.begin.NONPST  
 ‘Taro starts eating watching television.’

On the other hand, the fact that *nagara* clauses cannot include lower grammatical categories is explained as follows.

First, subordinate clauses have layers like those in (94). As shown in (95), a *nagara* clause cannot include elements belonging to layers higher than aspect.

(94) ... Voice Aspect Polarity Tense Mood Conjunction

(95) ... Voice Aspect ~~Polarity Tense Mood~~ Conjunction

*nagara*

If it is hypothesized that the head of the *nagara* clause, “*nagara*”, moves to the hierarchically highest position in the subordinate clause, the conjunction position, the intervening heads (“*te-i*”, “*nai*”, “*ta*”, and “*daroo*”, for example) cannot exist. If they did exist, then the movement would violate the locality principle. Thus, a *nagara* clause cannot contain any elements following aspect.

(96) ... Voice Aspect ~~Polarity Tense Mood~~ Conjunction

*nagara*



There is a growing possibility of explaining the findings that have accumulated in Japanese language studies from the perspective of universal grammar, which is the intention of generative grammar. However, the current situation is that there are quite a lot of findings in Japanese grammar to explain. In order for cartographic studies (or any similar theoretical studies based on a layered structure) to truly be effective, it is necessary to reach the point where a great number of new findings not already gained in previous studies can be achieved through taking this approach. We can only await future research.

## 6 Conclusion

This chapter has outlined previous research in Japanese language studies from the perspective of the layered structure of the sentence. Japanese is an agglutinating language and has the characteristic that morphemes expressing grammatical categories (sentence constituents) are attached following the stem of a predicate to form a string. Minami’s research attempted to treat the fact that the order of the morphemes in the string is (mostly) fixed from the perspective of the layered structure of the sentence. This result is of great importance as something that arose from the linguistic realities of Japanese and ultimately reached the point of becoming a principle high in universality. Takubo’s research was a revision of a part of Minami’s ideas, but is especially important for its treatment of restrictive modifying clauses as Type B clauses and non-restrictive modifying clauses as Type C. Masuoka’s study, like Minami’s, set up

four levels in the sentence formation process, but these were not treated as a simple continuum; rather, broadly dividing the sentence into the proposition level and the modality level, each of which was further subdivided into two levels, he raised the validity of his proposal as a theory of sentence formation above that of Minami's. Noda's research also basically did not depart greatly from the Minami model, but, by correlating each level of structure with each subordinate clause, he succeeded in describing the layered structure in more detail.

“Explanations” for the rich set of findings from Japanese language studies concerning the layered structure of the sentence have begun to emerge from cartographic studies of layered structure. That alone is significant, but if those “explanations” are just a translation of known phenomena into a structure map, it cannot be said to be of much value (at least to researchers who do not adopt such a theoretical framework). The accumulation of empirical data that is clarified by examining it from this framework is to be desired in the future.

Layered structure can be said to be a valuable area of study that has become the point of intersection between Japanese language descriptive research and theoretical research like generative grammar. Studies on layered structure are also being done in the framework of functional grammar from the perspective of subjectivity versus objectivity, pursuing a distinction between event perception and communication functions, as in subjective – objective – interpersonal (cf. Bybee 2015), and in this sense as well, this continues to be an area in which we can look forward future research developments.

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## 6 Functional Syntax

### 1 Introduction

Functional Syntax, a subarea of functional linguistics proposed by Susumu Kuno in the early 1970s, is an approach to syntax in which sentence structures and their grammaticality/acceptability are analyzed with emphasis on their communicative function. It is radically different from pure syntactic theories such as Chomskyan generative grammar that maintain the autonomy of syntax. Kuno and his associates and followers have since discussed a wide range of linguistic phenomena such as ellipsis, anaphora, movement, honorification, negation, sentence ambiguity including quantifier scope, and a large number of constructions in English, Japanese, Korean, and many other languages. He has identified in these discussions various nonsyntactic (semantic, discourse-based, or pragmatic) factors that play crucial roles in determining sentence structures and their grammaticality/acceptability. He has also shown how important it is to bear in mind nonsyntactic factors that interact with syntactic phenomena when we study syntax, and how dangerous it is to draw sweeping generalizations on the basis of a small number of examples and limited syntactic notions such as ‘c-command’ or the ‘unergative-unaccusative’ distinction.

In this paper, we will first review in Section 2 some of the advances in the study of Japanese syntax that Functional Syntax has made possible. In Sections 2.1 and 2.2 we will review two functional perspectives uncovered by Functional Syntax – functional sentence perspective and empathy perspective – that are indispensable for the study of syntactic phenomena in natural language. In Section 2.3 we will review eight Japanese constructions that generative grammarians and lexical semanticists have claimed to be heavily dependent upon the unergative-unaccusative distinction, and observe some problems that such analyses encounter. Then, taking up one of the constructions, the ‘*V-kake-no* N’ construction, we will review briefly Kuno and Takami’s (2003) and Takami and Kuno’s (2006: ch. 3) Functional Syntax analysis of the construction.

In Section 3, we will discuss the Japanese ‘*-te aru*’ construction, exemplified below, in the framework of Functional Syntax.

- (1) a. *Doa ga akete aru.*  
door NOM open is  
‘The door is open (has been opened).’
- b. \**Doa ga tataite aru.*  
door NOM hit is  
‘The door has been hit.’

Although this construction has been extensively discussed in the literature, there still seem to be a wide range of examples left unaccounted for. In addition to pointing out some problems with previous analyses, we would like to propose a functional constraint that can account for the acceptability of three different types of this construction in a uniform manner. Finally, in Section 4, we will point out, in the conclusion to this paper, some useful directions for future research in syntax.

## 2 A review of Functional Syntax

### 2.1 Functional sentence perspective

Observe first the following discourses.

- (2) Speaker A: *Kimi wa asa go-zi ni okirun desu ka?*  
 you TOP morning 5 o'clock at get.up Q  
 'Do you get up at five in the morning?'

Speaker B<sub>1</sub>: *Hai, asa go-zi ni okirun desu.*  
 yes morning 5 o'clock at get.up  
 'Yes, I get up at five in the morning.'

Speaker B<sub>2</sub>: \**Hai, ϕ okirun desu.*  
 yes get up  
 '\*Yes, I get up ϕ.'

- (3) Speaker A: *Kimi wa asa go-zi ni wa okite imasu ka?*  
 you TOP morning 5 o'clock at get.up are Q  
 'Are you up at 5 o'clock in the morning?'

Speaker B<sub>1</sub>: *Hai, asa go-zi ni wa okite imasu.*  
 yes morning 5 o'clock at get.up am  
 'Yes, I am up at 5 o'clock in the morning.'

Speaker B<sub>2</sub>: *Hai, ϕ okite imasu.*  
 'Yes, I am up ϕ.'

(2B<sub>2</sub>), where *asa go-zi ni* 'at 5 in the morning' in (2B<sub>1</sub>) has been deleted, is unacceptable as an answer to question (2A), while (3B<sub>2</sub>), where *asa go-zi ni wa* 'at 5 in the morning' in (3B<sub>1</sub>) has been deleted, is acceptable as an answer to question (3A). What is the reason for this difference?



- (6) Speaker A: *Taroo to Sinzyuku de nonda no?*  
 ‘Did you drink sake with Taro in Shinjuku?’

Speaker B<sub>1</sub>: *Un, φ Sinzyuku de nonda.*  
 ‘Yes, I drank sake φ in Shinjuku.’

Speaker B<sub>2</sub>: *\*Un, Taroo to φ nonda.*  
 ‘\*Yes, I drank sake with Taro φ.’

The subject *Kimi wa/Boku wa* ‘You/I’ has been deleted in (5) and (6), but since it is the topic of the sentence representing the least important information, the principle given in (4) is satisfied (it is not marked with φ above). Now, as an answer to question (5A), it is possible to delete *Sinzyuku de* and retain *Taroo to*, as seen in (5B<sub>1</sub>), while it is impossible to retain *Sinzyuku de* and delete *Taroo to*, as seen in (5B<sub>2</sub>). On the other hand, when the order of *Sinzyuku de* and *Taroo to* is reversed, as in question (6A), the elements that can be deleted or retained are also reversed, as shown in (6B). This shows that question (5A) asks whether it was with Taro that the hearer drank sake in Shinjuku, while question (6A) asks whether it was in Shinjuku that the hearer drank sake with Taro. In other words, the focus element is *Taroo to* in (5A), but it is *Sinzyuku de* in (6A). (5B<sub>1</sub>) is acceptable because the more important information *Taroo to* has been retained and the less important information *Sinzyuku de* has been deleted, in keeping with the Pecking Order of Deletion Principle in (4), but (5B<sub>2</sub>) is unacceptable because the opposite operation has been done, in violation of (4). Likewise, (6B<sub>1</sub>) is acceptable because the more important information *Sinzyuku de* has been retained and the less important information *Taroo to* has been deleted, but (6B<sub>2</sub>) is unacceptable because the opposite operation has been done.

Note that both of the focus elements *Taroo to* in (5A) and *Sinzyuku de* in (6A) are situated immediately to the left of the verb. Kuno (1978: 60) (see also Kuno 1995) has drawn the following generalization, based on examples such as (5) and (6).

- (7) **Information Structure in Japanese:** Since the verb is generally fixed in sentence-final position in Japanese, a constituent immediately to the left of the verb represents the focus of the sentence when the verb represents less important information.

This shows that the word order of Japanese sentences accords at least partially with the following cross-linguistic principle (Kuno 1978, 1979, Quirk et al. 1985: 1359).

- (8) **Flow of Information Principle:** Elements in a sentence that does not contain emphatic stress or morphologically marked focus elements are ordinarily arranged in the order ‘less important information first and more important information last.’

Thus, the Flow of Information in sentences such as (2B<sub>1</sub>), (5A) and (6A), where the verb carries less important information, can be represented as in (9a), and that in



'Hanako graduated from Tokyo University, and Kyoko left (it).'

(12) a. \**Hanako wa Toodai o kyonen sotugyoo-si,*  
TOP Tokyo Univ. ACC last.year graduated  
*Kyooko wa Kyoodai o ϕ sotugyoo-sita.*  
TOP Kyoto Univ. ACC graduated  
‘\*Hanako graduated from Tokyo Univ. last year, and Kyoko graduated from Kyoto Univ. ϕ.’

- b. *Hanako wa kyonen Toodai o sotugyoo-si,*  
*Kyoko wa kotosi φ sotugyoo-sita.*  
 this.year  
 ‘Hanako graduated from Tokyo Univ. last year, and Kyoko graduated φ  
 this year.’

Note that the word order of (12a) is [S+O+Adjunct+V], and that of (12b) is [S+Adjunct+O+V]. Note also that in (12a, b) the verbs do not represent the focus of the sentences since they are not contrasted at all. The Flow of Information given in (9a) and the Pecking Order of Deletion Principle in (4) can readily account for the unacceptability of (12a) because the null element *kyonen* 'last year' appears in the immediately preverbal position, which is the focus position. However, the acceptability of (12b) poses a problem since the null element *Toodai o* also appears in the immediately preverbal position. Why is (12b) acceptable?

Kuno (1995) has explained the contrast shown in (12a, b) by assuming that (12b) maintains the basic word order of Japanese, shown in (13) below, and that (12a) is derived by intentionally placing the time adjuncts to the immediately preverbal position by scrambling, as shown in (14).

(13) **Basic Word Order in Japanese:**

$$[\varsigma \text{ S} + \text{Adjunct}_1 + \dots \text{Adjunct}_n + \text{Complement}_1 + \text{Complement}_2 + \text{V}]^2$$

2 There is only one complement (i.e. object) that appears in an ordinary transitive sentence, but there are two in sentences such as (10a, b). Therefore, two complements are given in (13).

- (14) Kyooko wa \_\_\_\_\_ Kyoodai o kyonen sotugyoo-sita.  
Complement Adjunct  
[scrambling]

In the second sentence of (12a) (=14), the adjunct *kyonen* 'last year', which is not in the immediately preverbal position in the basic word order of the sentence, has been intentionally placed in that position to indicate its focushood, as shown in (14). Therefore it is difficult to interpret it as a nonfocus element, and hence, the sentence is unacceptable when a null element is used.

In the second sentence of (12b) (= *Kyooko wa kotosi [Toodai o] sotugyoo-sita.*), on the other hand, the complement *Toodai o* (an argument of the verb) is in the immediately preverbal position in the basic word order of the sentence, and therefore it is not too difficult to interpret it as a nonfocus element, since the placement of that element in that position is not by the speaker's design (i.e. it automatically obtains because of its syntactic nature). In short, the difference in acceptability between (12a) and (12b) is attributable to an instance of the working of the following general principle proposed by Kuno (1978, 1979, 1987, 1995).

- (15) **Markedness Principle for Discourse Rule Violations:** Sentences that involve marked (or intentional) violations of discourse principles are unacceptable. On the other hand, sentences that involve unmarked (or unintentional) violations of discourse principles go unpenalized and are acceptable.

In (12a), the speaker's deletion of the adjunct *kyonen* is an intentional violation of the Pecking Order of Deletion Principle because he/she has deleted the most important information in spite of the fact that he/she has marked it as the focus of the sentence by changing its basic word order. Thus, there is a penalty and the unacceptability of (12a) results. In (12b), on the other hand, the speaker's placement of the nonfocus complement *Toodai o* in the immediately preverbal position is not an intentional violation of the Flow of Information in Japanese, since he/she has simply observed the basic word order of Japanese. Hence, there is no penalty for this violation, and the deletion of the nonfocus *Toodai o* is allowed by the Pecking Order of Deletion Principle. (12b) is acceptable for this reason.

We have reviewed above functional sentence perspective proposed in Functional Syntax and shown how it can account for the phenomenon of discourse deletion in Japanese by the interaction of the Pecking Order of Deletion Principle and the Markedness Principle for Discourse Rule Violations. Kuno (1978), Kuno and Takami (2003) and Takami and Kuno (2002: ch. 8) have demonstrated that functional sentence perspective also plays a crucial role in accounting for the acceptability of Japanese sentences such as those involving the so-called ‘quantifier float’ and the displacement of an argument or an adjunct to the right of the verb, though we cannot go into the details here because of space limitations.

## 2.2 Empathy perspective

Observe first the following examples.

- (16) a. *Taroo ga kinoo Sinzyuku de Hanako to pattari deatta.*  
           NOM yesterday                   in                   with accidentally met  
           ‘Taro chanced to meet Hanako in Shinjuku yesterday.’
- b. *Hanako ga kinoo Sinzyuku de Taroo to pattari deatta.*  
           ‘Hanako chanced to meet Taro in Shinjuku yesterday.’
- (17) a. *Boku wa kinoo Sinzyuku de Hanako to pattari deatta.*  
           I       TOP yesterday                   in                   with accidentally met  
           ‘I chanced to meet Hanako in Shinjuku yesterday.’
- b. \**Hanako wa kinoo Sinzyuku de boku to pattari deatta.*  
           ‘\*Hanako chanced to meet me in Shinjuku yesterday.’
- (18) *Taroo wa gakkoo o sabotte mati ni dekaketa. Maruman*  
           TOP school ACC skipping town into went  
*Patinko ten no kado o magatta tokoro de,*  
           Pachinko parlor GEN corner ACC turned place at  
           ‘Taro skipped school and went into town. When he turned the corner at the  
           Maruman Pachinko Parlor,’
- a. *Kare wa gakkoo no seitosidoo tantoo no*  
           he TOP school GEN student.guidance in.charge GEN  
*sensei to pattari deatta.*  
           teacher with accidentally met  
           ‘He chanced to meet the school guidance counselor.’
- b. \**Gakkoo no seitosidoo tantoo no sensei ga kare to pattari deatta.*  
           ‘\*The school guidance counselor chanced to meet him.’

The verb *deau* ‘meet by chance’ in (16)–(18) is a reciprocal verb; (16a), for instance, conveys the same logical content as (16b). However, it is intuitively felt that (16a) and (16b) are different with respect to the speaker’s attitude to the event, or toward the participants of the event. That is, we feel that in (16a), the speaker has taken a perspective that places him/her closer to Taro than to Hanako, whereas in (16b), the speaker is closer to Hanako than to Taro. The same is the case with sentences involving other reciprocal verbs such as *kekkon-suru* ‘marry’ and *deeto-suru* ‘date’. Kuno (1975, 1978, 1987: ch.5) and Kuno and Kaburaki (1977) have proposed the notion of

‘empathy’ to formalize this intuitive feeling and thus to account for the unacceptability of (17b), (18b) and many other related phenomena.

Let us first enumerate empathy definitions, empathy hierarchies, and other assumptions that are necessary for further discussion.

- (19) a. **Empathy:** Empathy is the speaker’s identification, which may vary in degree, with a person/thing that participates in the event or state that the speaker describes in a sentence.
- b. **Degree of Empathy:** The degree of the speaker’s empathy with  $x$ ,  $E(x)$ , ranges from 0 to 1, with  $E(x) = 1$  signifying his/her total identification with  $x$  and  $E(x) = 0$  signifying a total lack of identification.
- c. **Surface Structure Empathy Hierarchy:** It is easier for the speaker to empathize with the referent of the subject than with that of any other NP in the sentence.  
 $E(\text{subject}) > E(\text{other NPs})$
- d. **Speech Act Empathy Hierarchy:** The speaker cannot empathize with someone else more than with himself/herself.  
 $E(\text{speaker}) > E(\text{others})$
- e. **Topic Empathy Hierarchy:** Given an event or state that involves  $A$  and  $B$  such that  $A$  is coreferential with the topic of the present discourse and  $B$  is not, it is easier for the speaker to empathize with  $A$  than with  $B$ .  
 $E(\text{topic}) \geq E(\text{nontopic})$
- f. **Humanness Empathy Hierarchy:** It is easier for the speaker to empathize with a human than with a nonhuman animate entity, and easier to empathize with an animate entity than an inanimate entity.  
 $E(\text{human}) > E(\text{nonhuman animate}) > E(\text{inanimate})$
- g. **Transitivity of Empathy Relationships:** Empathy relationships are transitive.
- h. **Ban on Conflicting Empathy Foci:** A single sentence cannot contain logical conflicts in empathy relationships.

The Surface Structure Empathy Hierarchy (EH) in (19c) states that, given *Taroo* in subject position and *Hanako* in nonsubject position in (16a), the speaker’s empathy with *Taroo* is greater than that with *Hanako* ( $E(\textit{Taroo}) > E(\textit{Hanako})$ ). The opposite (i.e.  $E(\textit{Hanako}) > E(\textit{Taroo})$ ) is the case with (16b). Now in (17a), in addition to the empathy relationship  $E(\text{subject}=\textit{boku}) > E(\text{nonsubject}=\textit{Hanako})$  dictated by the Surface Structure EH, the Speech Act EH given in (19d) dictates the empathy relationship  $E(\text{speaker}=\textit{boku}) > E(\text{others}=\textit{Hanako})$ . Since these two empathy relationships are

consistent, the sentence does not violate the Ban on Conflicting Empathy Foci in (19h); hence acceptability. We will show these two relationships and the resulting conclusion in the following way ('EH' stands for 'Empathy Hierarchy'):

- (20) *Boku wa kinoo Sinzyuku de Hanako to pattari deatta.* (=17a)  
 Surface Structure EH: E (subject=*boku*) > E (nonsubject=*Hanako*)  
 Speech Act EH: E (speaker=*boku*) > E (others=*Hanako*)  
 -----  
 E (*boku*) > E (*Hanako*) [no conflict]

On the other hand, the unacceptability of (17b) can be accounted for in the following manner.

- (21) \**Hanako wa kinoo Sinzyuku de boku to pattari deatta.* (=17b)  
 Surface Structure EH: E (subject=*Hanako*) > E (nonsubject=*boku*)  
 Speech Act EH: E (speaker=*boku*) > E (others=*Hanako*)  
 -----  
 Transitivity of Empathy Relationships: \*E (*Hanako*) > E (*boku*) > E (*Hanako*)

The two empathy relationships shown in (21) contain a logical conflict and therefore violate the Ban on Conflicting Empathy Foci; hence the unacceptability of (17b) results.

The difference in acceptability between (18a) and (18b) can be accounted for by the interaction of the Surface Structure EH with the Topic EH given in (19e), as shown below.

- (22) *Kare wa gakkoo no seitosidoo tantoo no sensei to pattari deatta.* (=18a)  
 Surface Structure EH: E (subject=*kare=Taroo*) > E (nonsubject=*sensei*)  
 Topic EH: E (topic=*kare=Taroo*) ≥ E (nontopic=*sensei*)  
 -----  
 E (*kare=Taroo*) > E (*sensei*) [no conflict]

- (23) \**Gakkoo no seitosidoo tantoo no sensei ga kare to pattari deatta.* (=18b)  
 Surface Structure EH: E (subject=*sensei*) > E (nonsubject=*kare=Taroo*)  
 Topic EH: E (topic=*kare=Taroo*) ≥ E (nontopic=*sensei*)  
 -----  
 Transitivity of Empathy Relationships: \*E (*sensei*) > E (*kare=Taroo*) ≥ E (*sensei*)

The two empathy relationships in (22) are consistent, and therefore sentence (18a) is acceptable, whereas the two empathy relationships in (23) contain a logical conflict, and therefore sentence (18b) is unacceptable.

Observe next the following sentences, which seem to be similar to the unacceptable (17b) and (18b), but are acceptable.

- (24) a. *Hanako wa kinoo boku o hihan-sita.* (cf. 17b)  
           TOP yesterday me ACC criticized  
           ‘Hanako criticized me yesterday.’
- b. *Taroo wa gakkoo o sabotte mati ni dekaketa. Maruman Patinko ten no kado o magatta tokoro de, gakkoo no seitosidoo tantoo no sensei ga, totuzen kare ni suddenly him to*  
           ‘*Oi kora!*’ to koe o kaketa. (cf. 18b)  
           ‘Hey, you!’ voice ACC said  
           ‘Taro skipped school and went into town. When he turned the corner at the Maruman Pachinko Parlor, the school guidance counselor suddenly called out to him, ‘Hey, you!’’

It seems that (24a), just like (17b), and (24b), just like (18b), contain logical conflicts in empathy relationships, as shown below.

- (25) *Hanako wa kinoo boku o hihan-sita.* (=24a)  
       Surface Structure EH: E (subject=*Hanako*) > E (nonsubject=*boku*)  
       Speech Act EH: E (speaker=*boku*) > E (others=*Hanako*)  
       -----  
       Transitivity of Empathy Relationships: \*E (*Hanako*) > E (*boku*) > E (*Hanako*)
- (26) *Gakkoo no seitosidoo tantoo no sensei ga, totuzen kare ni ‘Oi kora!’ to koe o kaketa.* (=24b)  
       Surface Structure EH: E (subject=*sensei*) > E (nonsubject=*kare=Taroo*)  
       Topic EH: E (topic=*kare=Taroo*) ≥ E (nontopic=*sensei*)  
       -----  
       Transitivity of Empathy Relationships: \*E (*sensei*) > E (*kare=Taroo*) ≥ E (*sensei*)

The acceptability of (24a, b) can be explained as another instance of the working of the Markedness Principle for Discourse Rule Violations discussed in Section 2.1, which is repeated here.

- (15) **Markedness Principle for Discourse Rule Violations:** Sentences that involve marked (or intentional) violations of discourse principles are unacceptable. On the other hand, sentences that involve unmarked (or unintentional) violations of discourse principles go unpenalized and are acceptable.

If *Hanako* criticizes the speaker, the subcategorization requirement of the verb *hihan-suru* ‘criticize’ automatically places the agent NP *Hanako* in subject position and the patient/theme NP *boku* ‘me’ in nonsubject (object) position. The same holds true of the verb *koe o kakeru* ‘call out to’. Therefore, the violations of the Ban on Conflicting Empathy Foci in (25) and (26) (=24a, b) are not by the speaker’s design; they are unintentional, and therefore there is no penalty and the sentences are acceptable. Note, on the other hand, that the logical conflict seen in (23) (=18b), for example, has been created by the speaker’s intentional choice of a nontopic NP (i.e. *gakkoo no seitosidoo tantoo no sensei*) as the subject of the reciprocal verb *deatta* ‘met by chance’. Hence, the Markedness Principle for Discourse Rule Violations penalizes this conflict and the unacceptability of (23) (=18b) results.

As observed in (24a, b), many transitive verbs take the agent NP in subject position and the patient/theme NP in object position in active sentences. Therefore, the speaker’s placement of the agent NP in subject position and the patient/theme NP in object position is unintentional. However, the speaker can place the agent NP in nonsubject position and the patient/theme NP in subject position by employing passive sentences, and therefore passive sentences are an instance of the speaker’s intentional use of a marked construction. With this in mind, observe the following passive sentences.

- (27) a. *Sonotoki, boku wa Taroo ni tatakareta.*  
           then       I       TOP           by   was.hit  
           ‘Then, I was hit by Taro.’
- b. \**Sonotoki, Taroo wa boku ni tatakareta.*  
           \*‘Then, Taro was hit by me.’
- (28) a. \**Kono hon wa kinoo Taroo ni yomareta.*  
           this   book TOP   yesterday           by   was.read  
           \*‘This book was read by Taro yesterday.’
- b. \**Nyuuyooku wa sengetu Taroo ni otozurerareta.*  
           New York TOP last.month           by   was.visited  
           \*‘New York was visited by Taro last month.’

While (27a) is acceptable, (27b) is unacceptable. (28a, b) are both unacceptable. (27a) is acceptable because both the Surface Structure EH and the Speech Act EH say that the speaker’s empathy with *boku* ‘I’ (subject/speaker) is greater than that with *Taroo* (nonsubject/others). The unacceptability of (27b) and (28a) is accounted for in the following way.



- (29) \**Sonotoki, Taroo wa boku ni tatakareta.* (=27b)

Surface Structure EH: E (subject=*Taroo*) > E (nonsubject= *boku*)

Speech Act EH: E (speaker=*boku*) > E (others=*Taroo*)

---

Transitivity of Empathy Relationships: \*E (*Taroo*) > E (*boku*) > E (*Taroo*)  
[a violation of the Ban on Conflicting Empathy Foci]

This violation has been created by the speaker's intentional use of a marked construction (i.e. the passive construction), and therefore the Markedness Principle for Discourse Rule Violations penalizes it and the unacceptability results.

- (30) \**Kono hon wa kinoo Taroo ni yomareta.* (=28a)

Surface Structure EH: E (subject= *kono hon*) > E (nonsubject=*Taroo*)

Humanness EH: E (human=*Taroo*) > E (inanimate=*kono hon*)

---

Transitivity of Empathy Relationships: \*E (*kono hon*) > E (*Taroo*) > E (*kono hon*)  
[a violation of the Ban on Conflicting Empathy Foci]

Note here that the Humanness EH given in (19f) plays a role in accounting for the unacceptability of (30) (=28a) and that the violation of the Ban on Conflicting Empathy Foci has also been created by the speaker's intentional use of the passive sentence. The unacceptability of (28b) is explained in exactly the same manner.

Interestingly enough, though, the following passive sentences, unlike (28a, b), are acceptable.

- (31) a. *Kono hon wa tennooheika ni mo yomarete-iru.*  
this book TOP the.Emperor by also has.been.read  
'This book has also been read by the Emperor.'
- b. *Nyuuyooku wa maitosi sekaizyuu no*  
New York TOP every.year all.over.the.world GEN  
*ookuno kankookyaku ni otozurerarete-iru.*  
a.lot.of tourists by has.been.visited  
'New York is visited by many tourists from all over the world every year.'

The above analytical framework predicts that (31a, b), just like (28a, b), should be unacceptable. Where does this difference come from?

The difference between the unacceptable (28a, b) and the acceptable (31a, b) lies in the fact that while the latter sentences characterize what kind of book this book is and what kind of city New York is, the former do not have such a characterizational property. That is, the fact that the Emperor has also read this book implies that many other people have read it, and characterizes what kind of book it is. Likewise, the fact that many tourists from all over the world visit New York characterizes what kind of city it is. In contrast, (28a, b) cannot be interpreted as characterizational

sentences: a single event of Taro's reading the book does not characterize what kind of book it is, and a single event of Taro's visiting New York does not characterize what kind of city it is.

Kuno (1990: 50), based on this type of difference, has proposed the following hypothesis (see also Kuno 2004).

- (32) **Subject Preference for Characterizing Sentences:** Sentences that characterize/define X are most felicitous if X is placed in subject position.

Note here that if the speaker wants to characterize or define something, the Subject Preference for Characterizing Sentences forces him/her to place it in subject position. That is, this sentence pattern is not produced by the speaker's design. Therefore, the acceptability of (31a, b) can be accounted for by saying that the empathy relationship conflicts that these sentences contain have been forced by the Subject Preference for Characterizing Sentences, and thus have not been created intentionally by the speaker. The Markedness Principle for Discourse Rule Violations does not penalize such empathy relationship conflicts, and the acceptability of (31a, b) results.

Let us next consider Japanese compound verbals involving the expressions *-te yaru* 'give', *-te kureru* 'give', and *-te morau* 'receive', which are all empathy expressions (Kuno 1978, 1987, Kuno and Kaburaki 1977). An English sentence such as *Taro praised Hanako* can be expressed in Japanese in at least four ways as shown below.

- (33) a. *Taroo ga Hanako o hometa.* (objective description)  
           NOM                                  ACC praised  
       b. *Taroo ga Hanako o homete yatta.*  
           NOM                                  ACC praising gave  
       c. *Taroo ga Hanako o homete kureta.*  
           NOM                                  ACC praising gave  
       d. *Hanako ga Taroo ni homete moratta.*  
           NOM                                  from praising received

Kuno (1978, 1987) and Kuno and Kaburaki (1977) have shown that these three compound verbals have the following empathy relationships.<sup>3</sup>

<sup>3</sup> Kuno (1978, 1987) and Kuno and Kaburaki (1977) have shown that the independent verbs *yaru* 'give', *kureru* 'give', and *morau* 'receive' are also empathy expressions having the following empathy relationships.

- (i) a. *yaru* 'give': E (subject)  $\geq$  E (dative)  
       b. *kureru* 'give': E (subject) < E (dative)  
       c. *morau* 'receive': E (subject) > E (*ni*-marked NP)

(34) **Empathy Hierarchies for Giving/Receiving Verbs in Japanese**

- a. *-te yaru* ‘give’: E (subject) > E (nonsubject)
- b. *-te kureru* ‘give’: E (subject) < E (nonsubject)
- c. *-te morau* ‘receive’: E (subject) > E (*ni*-marked NP)

It is important to note here that the above three empathy hierarchies (as well as those for the independent verbs *yaru* ‘give’, *kureru* ‘give’, and *morau* ‘receive’) are marked (special) empathy hierarchies defining the relationships between subject and other NPs. Therefore, when these empathy hierarchies are applied, the ordinary empathy hierarchy, i.e. the Surface Structure EH (E (subject) > E (other NPs)), is not applied. Thus, while (33a) is the speaker’s objective description of the event where Taro praised Hanako, (33b) is a description in which the speaker places himself/herself closer to Taro than to Hanako, and (33c, d) are descriptions in which the speaker places himself/herself closer to Hanako than to Taro.<sup>4</sup>

Now observe the following sentences.

- (35) a. *Boku wa Hanako o homete yatta.*  
       b. *\*Boku wa Hanako o homete kureta.*  
       c. *\*Hanako wa boku ni homete moratta.*
- (36) a. *\*Taroo wa boku o homete yatta.*  
       b. *Taroo wa boku o homete kureta.*  
       c. *Boku wa Taroo ni homete moratta.*

(35a) is acceptable, but (35b, c) are unacceptable. On the other hand, (36a) is unacceptable, but (36b, c) are acceptable. These differences are automatically accounted for by the interaction between the Empathy Hierarchies for Giving/Receiving Verbs in Japanese given in (34a–c) and the Speech Act EH. (35a) is acceptable because the EH for *-te yaru* in (34a) and the Speech Act EH both dictate the empathy relationship E (subject/speaker=*boku*) > E (nonsubject/others=*Hanako*). On the other hand, (35b) is unacceptable because the EH for *-te kureru* in (34b) dictates the empathy relationship E (nonsubject=*Hanako*) > E (subject=*boku*), but the Speech Act EH dictates the empathy relationship E (speaker=*boku*) > E (others=*Hanako*). These two relationships contain a logical conflict and violate the Ban on Conflicting Empathy Foci. This violation has been created by the speaker’s intentional use of the ‘*-te kureru*’ construction, which is penalized by the Markedness Principle for Discourse Rule Violations. The unacceptability of (35c) and the difference between (36a) and (36b, c) are explained in a similar fashion.

<sup>4</sup> (33c) involving ‘*-te kureru*’, as shown by its empathy hierarchy (E (nonsubject) > E (subject)), is also interpretable as representing the speaker’s empathy with himself/herself; namely, Taro’s praising of Hanako was beneficial to the speaker. It is also interpretable as representing the speaker’s empathy with himself/herself and Hanako.

Let us finally observe the following examples involving *zibun* ‘self’, another empathy expression, as well as the above three expressions.

- (37) a. \**Hanako wa [Taroo ga zibun o homete yatta]*  
           TOP          NOM self ACC praising gave  
           *koto ga uresikatta.*  
           fact NOM was.delighted  
           ‘Hanako was delighted that Taro praised her.’
- b. *Hanako wa [Taroo ga zibun o homete kureta] koto ga uresikatta.*
- c. *Hanako wa [zibun ga Taroo ni homete moratta] koto ga uresikatta.*  
           TOP self NOM from praising received

Kuno (1978, 1987) and Kuno and Kaburaki (1977) have demonstrated that the Japanese reflexive pronoun *zibun* ‘self’ dictates that the speaker empathize with its referent rather than with other persons that show up in the same clause. Thus, the empathy relationships that hold in the embedded clauses in the above three sentences are as shown below.

- (38) a. (=37a) *–te yaru:* E (subject=*Taroo*) > E (nonsubject=*Hanako*)  
           *zibun:* E (referent=*Hanako*) > E (other person=*Taroo*)
- b. (=37b) *–te kureru:* E (nonsubject=*Hanako*) > E (subject=*Taroo*)  
           *zibun:* E (referent=*Hanako*) > E (other person=*Taroo*)
- c. (=37c) *–te morau:* E (subject=*Hanako*) > E (*ni*-marked NP=*Taroo*)  
           *zibun:* E (referent=*Hanako*) > E (other person=*Taroo*)

Only (37a) contains an irreconcilable conflict in the speaker’s empathy foci, and the unacceptability results.

We have shown above that empathy perspective plays an important role in accounting for the acceptability of various constructions and expressions in Japanese. There are of course many other empathy-related constructions and expressions in Japanese and other languages, and the reader is referred to Kuno (1975, 1978, 1987: ch. 5) and Kuno and Kaburaki (1977).

### 2.3 Unaccusativity and the ‘V-kake-no *N*’ Construction

Perlmutter (1978) proposed to divide intransitive verbs into two categories – unergative verbs and unaccusative verbs.<sup>5</sup> Unergative verbs are predicates describing (i)

<sup>5</sup> A similar distinction was also made by Mikami (1953).

willed or volitional acts (*hasiru* ‘run’, *hataraku* ‘work’, *odoru* ‘dance’, *oyogu* ‘swim’, etc.) and (ii) certain involuntary bodily processes (*nemuru* ‘sleep’, *naku* ‘cry’, *haku* ‘vomit’, etc.). Unaccusative verbs are (i) predicates whose subjects are semantically patient/theme (*kowareru* ‘break’, *kareru* ‘wither’, *otiru* ‘fall’, *kusaru* ‘rot’, etc.), (ii) predicates of existing and happening (*aru* ‘exist’, *okoru* ‘happen’, *arawarenu* ‘appear’, etc.), and (iii) aspectual predicates (*hajimaru* ‘start’, *owaru* ‘end’, etc.). His work has prompted various scholars to claim that a large number of phenomena in various languages hinge on this unergative-unaccusative distinction. Japanese is no exception. The following eight constructions in Japanese, among others, have been claimed to be acceptable or unacceptable (or to have different interpretations) depending upon whether unergative or unaccusative verbs are used.

- (39) **Adversity Passive Construction:** requires **unergative** (or transitive) verbs (Kageyama 1993, 1996)

- a. *Gakusei ni zyugyoo-tyuu osyaberisareta.* (unergative)  
 student by class-during talk.PASS.PST  
 ‘I was adversely affected by the fact that the students talked during the class.’
- b. \**Genkan no kabin ni kowarerareta.* (unaccusative)  
 hall GEN vase by break.PASS.PST  
 ‘I was adversely affected by the fact that the vase in the hall broke.’

- (40) **Causative Passive Construction:** requires **unergative** (or transitive) verbs (Kageyama 1993)

- a. *Kodomo ga hatarakasareta.* (unergative)  
 child NOM work.make.PASS.PST  
 ‘Children were made to work.’
- b. \**Kanzya wa siboosaserarete simatta.* (unaccusative)  
 patient TOP dying.make.PASS ended.up  
 ‘\*The patient was made to die.’

- (41) **‘-te morau’ Construction:** requires **unergative** (or transitive) verbs (Kageyama 1996)

- a. *Taroo ni watasi no kawarini hasitte moratta.* (unergative)  
 by me GEN on.behalf.of running received  
 ‘I am happy that Taro ran on my behalf.’
- b. \**Bukka ni sagatte moratta.* (unaccusative)  
 prices by coming.down received  
 ‘I am happy that prices have come down.’

- (42) **VP Focus Fronting:** requires **unergative** (or transitive) verbs  
(Hoji, Miyagawa & Tada 1989, Hasegawa 1990, Hirakawa 2003, etc.)
- a. [UBC ni **osiiri** sae]<sub>i</sub> gakusei ga sannin t<sub>i</sub> sita. (unergative)  
into breaking.into even student NOM 3.person did  
'(Lit.) Even break into UBC, three students did.'
- b. \*[Huri sae]<sub>i</sub> ame ga t<sub>i</sub> sita. (unaccusative)  
falling even rain NOM did  
'(Lit.) Even rain, it did.'
- (43) **'V-kake-no N' Construction:** requires **unaccusative** verbs  
(Kishimoto 1996) [*kake* 'be about to, do halfway']
- a. **kare-kake-no** hana (unaccusative)  
wither-KAKE-GEN flower  
'a flower, almost withered'
- b. \***sakebi-kake-no** kankyaku (unergative)  
shout-KAKE-GEN spectator  
'spectators, who are about to shout'
- (44) **'Rokuna...nai' Construction:** requires **unaccusative** verbs  
(Nishigauchi 1993, Hirakawa 2003)
- a. Rokuna mono ga **otite** nakatta. (unaccusative)  
good thing NOM falling NEG.PST  
'Nothing good was lying on the ground.'
- b. \*Rokuna tarento ga **huzake** nakatta. (unergative)  
good actor NOM fooling.around NEG.PST  
'No good actors fooled around. (Only bad actors did.)'
- (45) **'-te iru' Construction:** produces different interpretations  
(Hirakawa 2003)
- a. Inu ga **hasitte** iru. (unergative – **action in progress**)  
dog NOM running is  
'A dog is running.'
- b. Mado ga **warete** iru. (unaccusative – **resultative state**)  
window NOM broken is  
'The window is broken.'

(46) **Quantifier Construction:** produces different interpretations

(Kageyama 1993, Kishimoto 2003, 2005)

a. *Ippai asonda.* (unergative – **modifies the quantity of playing**)

a.lot played

'(We) played a lot.' ['a lot' does not modify the number of the subject]

b. *Ippai kusatta.* (unaccusative – **modifies the number of the subject**)

a.lot rotted

'A lot of things rotted.'

In the Government and Binding Theory of generative grammar, it has been assumed that the subjects of unaccusative verbs take the direct object position at D-structure, and move to the specifier position of IP (=S) at S-structure. This assumption is generally referred to as the Unaccusative Hypothesis, as shown below.

(47) **Unaccusative Hypothesis:**a. Unergative Verbs: [<sub>IP</sub> NP [<sub>VP</sub> V ]] e.g. *Taroo ga hasitta.* 'Taro ran.'b. Unaccusative Verbs: [<sub>IP</sub> e [<sub>VP</sub> V NP ]] e.g. *Doa ga aita.* 'The door opened.'

For each of the constructions in (39)–(46), it has been claimed that the requirement of unergative or unaccusative verbs is directly or indirectly attributable to the Unaccusative Hypothesis. In Takami and Kuno (2002, 2006) and Kuno and Takami (2003), however, we have shown that none of these requirements hold. Observe the following sentences.

(48) **Adversity Passive Construction:** allows **unaccusative** verbsa. *Soturon siage no ziki ni pasokon*  
graduation.thesis completion GEN time at PC*ni kowarerarete, komatte simatta.*

by breaking.PASS in.trouble ended.up

'I was in trouble at the time of completing my graduation thesis because my personal computer broke.'

b. *Niwa itimen iyana nioi no suru hana ni*  
garden all.over bad smell GEN do flower by*sakarete, kimoti ga warui.*

blooming.PASS feeling NOM bad

'I feel nauseated because foul-smelling flowers bloomed all over the garden.'

(49) **Causative Passive Construction:** allows **unaccusative** verbs

- a. *Sinzoo-isyoku ni saigo-no nozomi o kaketa sono*  
 heart.transplant on last hope ACC set the  
*kanzya wa, muzan-nimo isi no sittoo no misu*  
 patient TOP miserably doctor GEN perform GEN mistake  
*ni-yori siboosaserarete simatta.* (cf. 40b)  
 by dying.make.PASS ended.up  
 'The patient, who had set his last hope on a heart transplant, was caused to die because his/her doctor made a mistake in performing the operation.'
- b. *Watasi wa ayauku tissokusaserareru tokoro datta.*  
 I TOP almost suffocate.make.PASS was  
 'I was almost made to suffocate.'

(50) **'-te morau' Construction:** allows **unaccusative** verbs

- a. *Kodomo ni hayaku ookikunatte morai, sigoto ni hukki sitai.*  
 child by fast growing.up receive job to return want  
 'I want my child to grow up fast so that I can return to my job.'
- b. *Hayaku okyaku-san ni tuite morawa*  
 soon guest by arriving receive  
*naito, ryoori ga samete simau wa.*  
 if.not dish NOM get.cold end.up SFP  
 'The dishes will get cold unless the guests arrive soon.'

(51) **VP Focus Fronting:** allows **unaccusative** verbs

- a. [*Zyoo*buni **umare** *sae*]<sub>i</sub> sono ko ga t<sub>i</sub>  
 healthily be.born even the child NOM  
*sureba, otoko demo onna demo ii.*  
 doing.if boy even.if girl even.if good  
 'As long as the child is born in a healthy condition, it is fine regardless of whether it is a boy or a girl.'
- b. (*Kareru dokoroka*) [**sio**re *sae*]<sub>i</sub> sono hana wa t<sub>i</sub> sinakatta.  
 wither far.from droop even the flower TOP did.not  
 'Far from withering, the flower didn't even droop.'

(52) **'V-kake-no N' Construction:** allows **unergative** verbs

- a. *Tati-kake-no kirin o syasin ni totta yo.*  
 stand.up-KE-GEN giraffe ACC photo DAT took SFP  
 'I took a picture of a giraffe in the process of standing up.'



- b. *Isutori-geemu de suwari-kake-no hito no isu o*  
 musical.chairs in sit-KAKE-GEN person GEN chair ACC  
*totta.*  
 pulled.away  
 ‘I pulled away a chair from the person who was about to sit on it in the game of musical chairs.’

(53) **‘Rokuna...nai’ Construction:** allows **unergative** verbs

- a. *Sakana o torini umi ni mogutta keredo,*  
 fish ACC catch sea to dived but  
*rokuna sakana ga oyoide inakatta.*  
 good fish NOM swimming are.not  
 ‘Though I dived into the sea to catch fish, there were no good fish swimming around.’
- b. *Kinoo no keiba wa rokuna uma ga hasiranakatta.*  
 yesterday GEN the.races TOP good horse NOM didn’t.run  
 ‘No good horses ran at the races yesterday. (Only bad horses did.)’

(54) **‘-te iru’ Construction:** allows opposite interpretations

- a. *Taroo ga isu ni suwatte iru.*  
 NOM chair on sitting is  
 ‘Taro is sitting on a chair.’ (unergative – **resultative state**) (cf. 45a)
- b. *Kane ga natte iru.*  
 bell NOM ringing is  
 ‘A bell is ringing.’ (unaccusative – **action in progress**) (cf. 45b)

(55) **Quantifier Construction:** allows opposite interpretations

- a. *Petto ga ippai nigeta.*  
 pet NOM a.lot ran.away  
 ‘A lot of pets ran away.’  
 (unergative – **modifies the number of the subject**) (cf. 46a)
- b. *Ippai naita.*<sup>6</sup>  
 a.lot cried  
 ‘(I) cried a lot.’ (unaccusative – **modifies the quantity of crying**) (cf. 46b)

<sup>6</sup> Kageyama (1993, 1996) and Kishimoto (1996, 2003, 2005), contrary to Perlmutter (1978), classify Japanese intransitive verbs describing bodily processes (*naku* ‘cry’, *nemuru* ‘sleep’, etc.) as unaccusative verbs.

Since the proposed constraints have been claimed to derive from the Unaccusative Hypothesis, the acceptability of (48)–(53) and the interpretations in (54) and (55) that are different from those in (45) and (46) cast serious doubt on the relevance of the Unaccusative Hypothesis to the above eight constructions in Japanese. They also seem to show how dangerous it is to draw sweeping generalizations on the basis of scanty data. In Takami and Kuno (2002, 2006) and Kuno and Takami (2003), we have proposed semantic, pragmatic, and discourse-based constraints for these constructions, but we have no space to summarize all of them here. We would like to take up just the ‘V-*kake-no* N’ construction here and discuss how the acceptability of this construction can be accounted for.<sup>7</sup>

Observe first the following examples of the ‘V-*kake-no* N’ construction, the first pair of which shows that the construction, even when the V is unaccusative, is acceptable or unacceptable depending upon the N that ‘V-*kake-no*’ modifies.

- (56) a. *oti-kake-no kanban*  
 fall-KAKE-GEN signboard  
 ‘a signboard in the middle of falling’

- b. \**oti-kake-no enpitu*  
 fall-KAKE-GEN pencil  
 ‘\*a pencil in the middle of falling’

- (57) a. *naki-kake-no syoozyo*  
 cry-KAKE-GEN girl  
 ‘a girl just about to cry’

- b. \**sakebi-kake-no syoozyo*  
 shout-KAKE-GEN girl  
 ‘\*a girl just about to shout’

(cf. 43b: Kishimoto)

The difference in acceptability between (56a) and (56b) seems to depend on whether we can observe a process leading to the goal point of the event that the ‘N+V’ (*kanban/enpitu-ga otiru* ‘a signboard/pencil falls’) represents. We can observe a signboard (affected, say, by a strong wind) in the process of falling, but being held back from falling, for example, by a nail at just one corner and remaining in a state of precarious suspension. But a pencil’s falling (say, from a desk to the floor) is just

<sup>7</sup> Various researchers have claimed that the unergative-unaccusative distinction plays a crucial role in deciding the acceptability of constructions in English such as the *there*-construction, the *way* construction (e.g. *Mary danced her way through the park*), the cognate object construction, the pseudo-passive construction, the locative inversion construction, and the *have*-causative construction. See Kuno and Takami (2004, 2007) for counterexamples to these claims and alternative functional accounts.

an instantaneous happening, and we usually do not observe the process or pay any attention to it. Similarly, the difference in acceptability between (57a) and (57b) seems to depend on whether we can observe a sign leading to the event that the ‘N+V’ represents. We can observe indications that someone is about to cry: e.g. sniffing or a teardrop falling from an eye. People can often keep themselves from actually bursting into tears even when such an indication has appeared. However, shouting starts instantaneously, and therefore we do not usually observe any indication that it is about to begin.

Based on these differences, we have proposed the following constraint in Kuno and Takami (2003) and Takami and Kuno (2006: ch.3).

(58) **The Semantic/Functional Constraint on the ‘V-kake-no N’ Construction:**

The ‘V-kake-no N’ construction is acceptable to the extent that

- (i) a process or a sign leading to the event that the ‘N+V’ (or ‘N+O(bject)+V’/‘S(ubject)+N+V’) represents has already started;<sup>8</sup>
- (ii) we customarily pay attention to such a process or a sign; and
- (iii) the achievement of the event that the V represents is physically or psychologically being held back, and remains in a state of suspension.

In (56a), the falling process of a signboard has already started, but we can observe it being physically held back from falling in a state of suspension; hence acceptability, in keeping with the constraint in (58). In (56b), on the other hand, we customarily do not observe a process in which a pencil falls, as it happens in the blink of an eye; hence unacceptability, violating the constraint in (58). In (57a), we can observe some signs that a girl is about to cry, but it is intuitively felt that the girl is in a state of being psychologically held back from actually crying. We also pay attention to such a state in daily life; hence acceptability. In (57b), on the other hand, we customarily do not observe any indication that someone is about to shout; hence unacceptability.

The following contrasting examples can be accounted for in a similar manner. Note that the fact that (59b) is acceptable casts serious doubt on Kishimoto’s claim that unergative verbs cannot be used in the ‘V-kake-no N’ construction.

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<sup>8</sup> The two constructions given here in parentheses, i.e. ‘N+O(bject)+V’/‘S(ubject)+N+V’, represent the ‘V-kake-no N’ constructions in which either the subject or the object of the transitive verb overtly appears to the left of the verb, as in the following.

- (i) a. *seetaa o ami-kake-no syoozyo* (N+O+V)  
sweater ACC knit-KAKE-GEN girl  
‘a girl in the middle of knitting a sweater’
- b. *syoozyo ga ami-kake-no seetaa* (S+N+V)  
girl NOM knit-KAKE-GEN sweater  
‘a sweater that a girl is knitting’

- (59) a. *\*aruki-kake-no hito*  
 walk-KAKE-GEN person  
 ‘a person just about to walk’
- b. *aruki-kake-no akatyan* (cf. Tsujimura 1999: 370)  
 walk-KAKE-GEN baby  
 ‘a baby on the point of walking’ (‘a baby about to be able to walk’)
- (60) a. *?\*mituke-kake-no takaramono* (Kishimoto 1996: 261)  
 find-KAKE-GEN treasure  
 ‘treasure that someone is about to find’
- b. *√/?mituke-kake-no syoorai no mokuhyoo*  
 find-KAKE-GEN future GEN goal  
 ‘a future goal that someone is about to discover’

In (59a), walking is an action that starts instantaneously for ordinary people, and therefore there is neither a sign nor a process held in suspension leading to this action. On the other hand, (59b) represents a baby advancing toward the goal point of being able to walk independently without any difficulty; that is, the baby is still in a stage in which he/she cannot walk well. Since he/she is not old enough yet to walk independently, it is said that he/she is being physically held back from walking in a satisfactory way. Hence, the difference in acceptability between (59a) and (59b) can be explained by the constraint in (58).<sup>9</sup> A similar explanation holds in (60a, b). Finding treasure is generally an incidental and instantaneous occurrence for a

<sup>9</sup> Tsujimura (1999) argues that the difference in acceptability between (59a) and (59b) depends on whether the events described are telic or atelic; ‘walking’ in (59a) is interpreted as an atelic event, since one can walk continuously without any specific endpoint, while that in (59b) is interpreted as a telic event whose endpoint refers to a steady walking stage. This notion of telicity has led Tsujimura to claim that even unacceptable nominals such as (59a) become acceptable if telicity is explicitly specified by a phrase such as *eki made* ‘to the station’, as shown below (Example (i), together with the acceptability judgment and its translation, is Tsujimura’s (1999: 371)).

(i) *eki made aruki-kake-no hito* (cf. 59a)  
 station to walk-KAKE-GEN person  
 ‘a person, halfway walking to the station’

However, contrary to Tsujimura’s judgment, (i) is as unacceptable as (59a) for most speakers, and it couldn’t be used to describe a man who has already walked several steps towards the station, to say nothing of a man who is already halfway to the station. Her analysis also fails to account for the difference in acceptability between (56a) (= *oti-kake-no kanban*) and (56b) (= *\*oti-kake-no enpitu*), among others, because *otiru* ‘fall’ in both examples denotes telic events. Hence it seems clear that we cannot consider the notion of telicity as a crucial factor for the acceptability of the ‘V-kake-no N’ construction. Tsujimura and Iida (1999) propose an analysis similar to Tsujimura (1999), and we have shown their theoretical and empirical problems in Takami and Kuno (2006: ch. 3).

treasure seeker as well as for an observer, and there is neither a sign nor a process leading to it. On the other hand, it takes someone a rather long time to discover his/her future goal, and therefore there is a process leading to the point of discovering his/her future goal. This process is customarily worth paying attention to, and it is felt that the achievement of discovering one's future goal in (60b), since it is a fairly difficult task, is being psychologically held back and remains in a state of suspension. Thus, the difference in (60a) and (60b) is accounted for by the constraint in (58).

It seems now clear that the acceptability of (43a) and (52a, b) and the unacceptability of (43b) observed above can also be accounted for by the constraint in (58). In (43a), it takes some time for a flower to wither, and we customarily pay attention to such a process. In (52a), it takes some time, if not much, for a giraffe to stand up, and people observing its action generally pay close attention to such a process. The same is the case with (52b). On the other hand, in (43b), as observed above, shouting is an instantaneous action, and therefore we do not observe any sign or process leading to this action. Hence (43a) and (52a, b) are acceptable, while (43b) is unacceptable.

From the above discussion it seems clear that the Semantic/Functional Constraint on the 'V-*kake-no* N' Construction in (58) can account for the acceptability of a wide range of examples (see Takami and Kuno (2006: ch. 3) for further examples and details), and that this construction cannot be dealt with by the unergative-unaccusative distinction. This latter point is especially clear from the different acceptability status shown in (56a, b), (59a, b) and (60a, b), in each pair of which the same verbs are used (the unaccusative *otiru* 'fall' in (56a, b), the unergative *aruku* 'walk' in (59a, b), and the transitive *mitukeru* 'find' in (60a, b)).

### 3 The '-*te aru*' construction

#### 3.1 Previous analyses and their problems

Observe first the following examples of the '-*te aru*' construction.

- (61) a. *Yasai ga kitte aru.*  
vegetable NOM cut is  
'The vegetables have been (are) cut.'
- b. *Sara ga kireini aratte aru.*  
dish NOM perfectly wash is  
'The dishes have been washed perfectly.'
- c. *Kabin ni hana ga ikete aru.*  
vase in flower NOM arrange is  
'The flowers have been arranged in a vase.'

This construction consists of the gerundive form of a transitive verb (*-te/de*) and the verb *aru* ‘be, exist’. The subject of this construction, just like the direct passive, is the original object of a transitive verb; in (61a), for example, the subject *yasai* ‘vegetable’ corresponds to the object of the verb *kiru* ‘cut’ (*yasai o kiru* ‘cut vegetables’). However, this construction, unlike the passive, does not allow the subject of the corresponding transitive construction to appear as an agent NP marked with *ni* ‘by’. Martin (1975) calls this type of the ‘*-te aru*’ construction the ‘intransitivizing resultative’ construction. We call it here the ‘X-*ga* ... *-te aru*’ construction, distinguishing it from what we will call the ‘X-*o* ... *-te aru*’ construction in Section 3.3.<sup>10</sup>

The ‘*-te aru*’ construction has already been discussed extensively in the fields of traditional Japanese grammar (Matsushita 1924, Takahashi 1969, Yoshikawa 1973, Teramura 1984: 147, 151) and Japanese language teaching (Jorden 1963: 282, Jorden and Noda 1988: 88–89, among others). The following account given in (62i) has been unanimously accepted by the scholars in these fields, and the one given in (62ii) has been additionally proposed by some of them (Matsushita 1924, Yoshikawa 1973, see also the Japanese textbook *Minna no nihongo shokyū* [Elementary Japanese for everyone] 2001: 54–55, published from Three A Network).

(62) **The account of the ‘*-te aru*’ construction in traditional Japanese grammar and Japanese language teaching:**

- (i) The ‘*-te aru*’ construction shows that a result brought about by an action is still in existence at the moment of speech.
- (ii) The action described in this construction has been performed in preparation for something.

Each of (61a–c) represents the resultative state of an action. For example, (61a) represents the present state that exists as a result of cutting vegetables (i.e. the vegetables are in pieces after being cut), and (61b) also represents the resultative state of the dishes that are now clean after being washed perfectly. Besides, each of the actions described in (61a–c) seems to have been performed in preparation for something. For instance, the action of cutting vegetables in (61a) can be considered as having been performed for some future purpose, say, to make vegetable stir-fry. Hence, the acceptability of (61a–c) can be captured by the account given in (62).<sup>11</sup>

<sup>10</sup> Martin (1975) calls this type of the ‘*-te aru*’ construction the ‘possessive resultative’ construction.

<sup>11</sup> The ‘*-te aru*’ construction and the ‘*-te iru*’ construction taken up briefly in Section 2.3 both consist of the gerundive form of a verb (*-te/de*) and the verbs *aru/iru* ‘be, exist’. *Aru* is used to express the existence of an entity that the speaker considers inanimate, while *iru* is used to express the existence of an entity that the speaker considers animate. Note here that these existential meanings of an entity that the independent verbs *aru* and *iru* represent are lost when they form the ‘*-te aru*’ and ‘*-te iru*’ constructions with the gerundive form of a verb. As already observed in the text part of this paper, these constructions represent aspectual meanings such as an action in progress and a resultative state. Therefore, some researchers such as Kinsui (2006: ch. 14) and Kudo (2014: 469–492) discuss these constructions as instances of grammaticalization.

More recently, Miyagawa (1989), in the framework of generative grammar, and Kageyama (1996), in the framework of lexical semantics, have proposed a new analysis of the acceptability of the ‘*-te aru*’ construction. They argue that transitive verbs that can appear in this construction are only those that intentionally bring about a change of state or location of an object. Observe the following examples from Miyagawa (1989: 58–60) and Kageyama (1996: 65, 72, 186).

- (63) a. *Mado ga akete aru.*  
 window NOM open is  
 ‘The window is open (has been opened).’
- b. *Yu ga wakasite aru.*  
 water NOM heat.up is  
 ‘The water has heated up.’
- (64) a. *Ringo ga katte aru.*  
 apple NOM buy is  
 ‘I have bought some apples.’
- b. *Genkin ga kinko ni irete aru.*  
 cash NOM safe in put is  
 ‘The cash has been put in the safe.’
- (65) a. *\*Aisukuriimu ga kononde aru.* (Miyagawa)  
 ice.cream NOM like is  
 ‘\*Ice cream is liked.’
- b. *\*Kodomo ga homete aru.* (*idem*)  
 child NOM praise is  
 ‘The children have been praised.’
- c. *\*{Ano hito / Bokusingu no aite} ga nagutte aru.*  
 that person / boxing GEN opponent NOM hit is  
 (Miyagawa/Kageyama)  
 ‘{That person / The opponent in the boxing match} has been hit.’
- d. *\*Otoosan no kata ga tataite aru.* (Kageyama)  
 father GEN shoulder NOM pound is  
 ‘My father’s shoulders have been pounded (lightly and repeatedly).’
- e. *\*Tue ga nigitte aru.* (*idem*)  
 cane NOM hold is  
 ‘The cane has been held (by someone).’

f. \**Tama ga emono ni utte aru. (idem)*  
 bullet NOM prey to shoot is  
 'A bullet (dart) has been shot at the prey.'

g. \**Hurai ga gaiya ni utte aru. (idem)*  
 fly (ball) NOM outfield to hit is  
 'A fly ball has been hit to the outfield.'

In (63a, b), the window and the water have undergone a change in state; in (64a, b), apples and the cash have undergone a change in location. (Likewise, the vegetables and the dishes in (61a, b) have undergone a change in state, and the flowers in (61c) have undergone a change in location.) Miyagawa (1989) attributes the unacceptability of (65a–c) to the fact that the subject referents have undergone neither a change in state nor a change in location. In (65a), even if someone likes ice cream, it does not undergo any change of state. In (65b, c), similarly, even if someone is praised or hit, there is usually no observable change of state regarding that person. Kageyama (1996), stating that only change-of-state and change-of-location verbs can appear in the '*-te aru*' construction, proposes the following lexical conceptual structure for events representing a change of state or location.

(66) [<sub>EVENT</sub> BECOME [<sub>STATE</sub> y BE AT-z]]

Then he attributes the unacceptability of (65c–e) to the fact that the verbs employed here (*naguru* 'hit', *tataku* 'pound', *nigiru* 'hold') are those of hitting or touching, not those of change of state or location. He further attributes the unacceptability of (65f, g) to the fact that the verbs *utu* 'shoot' and *utu* 'hit' do not necessarily imply that an object shot or hit (i.e. a bullet or a fly ball in (65f, g)) reaches the intended place; even if someone shoots a bullet at the prey, it may not hit the target. This means, Kageyama argues, that the verbs in (65f, g) do not have 'AT-z' in their lexical conceptual structures (see (66)); hence unacceptability.

The above proposal by Miyagawa and Kageyama can be summarized as in the following.

(67) **The Change-of-state and Change-of-location Constraint on the '*-te aru*'**

**Construction:** Only transitive verbs that intentionally bring about a change of state or location can appear in the '*-te aru*' construction. (Verbs of hitting and touching that do not imply a resultative state do not appear.)<sup>12,13</sup>

<sup>12</sup> (67) is Kageyama's (1996: 186) formulation. Miyagawa (1989: 58), assuming that an object undergoing a change in state or in location is assigned the semantic role of Theme, makes a similar claim in terms of this notion.

<sup>13</sup> We should note here that (67) is actually quite similar to Takahashi's (1969) [Kindaichi (ed.) (1976: 128)] claim that verbs that appear in the '*-te aru*' construction are transitive verbs causing a change to an object, and are restricted to verbs representing willed or volitional acts.



However, there seem to be counterexamples to the constraint in (67). Observe first the following contrast.

- (68) a. \**Kodomo ga homete aru.* (=65b) (Miyagawa)

‘The children have been praised.’

- b. [*Seitotati no risaitaru no ato de*]  
students GEN recital GEN after  
[‘after the students’ recital’]

*Sensei: Kodomotati minna ni ‘Yoku ganbatta’ to homete*  
teacher: children all to good did.well that praise  
*yananakereba narimasen ga, homewasureta*  
give must but praising.forgot  
*kodomo wa arimasen ka?*  
children TOP aren’t Q

‘We must praise all the children, saying ‘You did well!’, but are there any children we’ve forgotten to praise?’

*Zyosyu: Taroo-kun to Natuko-san wa homete arimasu*  
assistant: and TOP praise is.POLITE  
*ga, Hanako-san wa mada homete arimasen.*  
but TOP yet praise is.not.POLITE

‘Taro and Natsuko have (already) been praised, but Hanako hasn’t been praised yet.’

Unlike (68a), (68b) involving the expression *homete aru* is perfectly acceptable. Observe further the following pairs of contrast.

- (69) a. \*{*Ano hito / Bokusingu no aite*} *ga nagutte aru.* (=65c)  
(Miyagawa/Kageyama)

‘{That person / The opponent in the boxing match} has been hit.’

- b. *Oyabun: Yatura o korasime no tame, tekibisiku*  
boss those.guys ACC punishment GEN as severely  
*naguritukete oku beki da.*  
hit should

‘We should hit those guys severely to punish them.’

*Kobun: (Heizi to Gonsuke wa nagutte arimasu ga,)*  
underling and TOP hit is.POLITE but  
*Sanpei ga mada nagutte arimasen.*  
NOM yet hit is.not.POLITE

‘(Heiji and Gonsuke have already been hit, but) Sanpei hasn’t been hit yet.’

- (70) a. \*
- Otoosan no kata ga tataite aru.*
- (=65d) (Kageyama)

‘My father’s shoulders have been pounded (lightly and repeatedly).’

- b. [Aru *massaazi-in dewa, kyaku ga ie de zibun*  
 a massage-parlor in customer NOM home at self  
*no kata o yoku tataite kara kuru yooni*  
 GEN shoulder ACC well pounding after come  
*susumete iru.*]  
 recommend is

[‘A certain massage parlor recommends that customers come to the parlor after they pound their shoulders well.’]

*Okkyaku: Kata no kori ga hidoinde, yatte-kimasita.*  
 customer shoulder GEN stiffness NOM bad.as came.here  
 ‘I’m here because I have very stiff shoulders.’

*Massaazisi: Ryookata tomo zyuubun tataite arimasu ka?*  
 masseur both.shoulders well pound is.POLITE Q  
 ‘Have you pounded both of your shoulders well?’

*Okayku: Watasi hidari-kiki nande, (migikata wa zyuubun*  
 customer I left-handed as right.shoulder TOP well  
*tataite arundesu ga,) hidarikata ga mada*  
 pound is but left.shoulder NOM yet  
*sukosi sika tataite arimasen.*  
 a.little only pound is.not.POLITE

‘Since I am left-handed, I have already pounded my right shoulder well, but I have only pounded my left shoulder a little.’

According to Miyagawa and Kageyama, the verbs of hitting *naguru* ‘hit’ and *tataku* ‘pound’ do not cause a change of state for their object referents, and no resultative state can be seen after such actions are performed. Therefore, they predict that not only (69a) and (70a) but also (69b) and (70b) should be unacceptable, but the latter, contrary to their predictions, are perfectly acceptable.

The same holds true of the following pair of examples involving the verb of touching *nigiru* ‘hold’.

- (71) a. \*
- Tue ga nigitte aru.*
- (=65e) (Kageyama)

‘The cane has been held (by someone).’

- b. [Kankoo-gaido *ga, nagai turibasi o wataru mae*  
 tour-guide NOM long rope.bridge ACC cross before  
*no oyakozure no okyakusantati ni]*  
 GEN family GEN visitors to

[‘a tour guide saying to family visitors who are about to cross a long rope bridge’]

*Okosantati no te ga sikkari nigitte areba,*  
 children GEN hands NOM tightly hold are.if  
*turibasi ga yuretemo, okosantati wa huan ni*  
 rope.bridge NOM shake.even.if children TOP fear to  
*naranai to omoimasu.*  
 don't.get that I.think

'So long as their hands are held tightly, I think your children won't be afraid, even if the bridge shakes.'

Unlike (71a), (71b) is perfectly acceptable. Thus, the acceptability of (69b), (70b) and (71b) shows that we cannot say that verbs of hitting and touching do not appear in the '-te aru' construction, as stated in (67).

Observe finally the following contrasting pairs.

- (72) a. \**Tama ga emono ni utte aru.* (=65f) (Kageyama)

'A bullet (dart) has been shot at the prey.'

- b. *Saimindan ga sudeni ippatu ano tora ni utte*  
 tranquilizer.dart NOM already one that tiger into shoot  
*aru node, suguni nemuru desyoo.*  
 is since soon sleep I.think

'Since the tiger has already been shot with a tranquilizer dart, I think it will lose consciousness soon.'

- (73) a. \**Hurai ga gaiya ni utte aru.* (=65g) (Kageyama)

'A fly ball has been hit to the outfield.'

- b. [*Kookoo-yakyuu no kooti ga sankan ni kita hukei ni*]  
 high.school-baseball GEN coach NOM visit to came parents to  
 ['a high school baseball coach saying to the parents who came to observe  
 (their children's play)']

*Moo hyappon izyoo mo goro ga naiya ni*  
 already 100 more.than grounder NOM the.infield to  
*utte arimasu kara, korekara gaiya-hurai no rensyuu*  
 hit is.POLITE since now the.infield-fly GEN practice  
*ni hairimasu.*  
 to start

'Since more than 100 grounders have already been hit to the infield, we will now start practicing outfield fly balls.'

In (72b), just like (72a), the verb of hitting *utu* ‘shoot’ is used, but this sentence is perfectly acceptable. Given this, (72a) is also judged acceptable if it is considered to be a sentence uttered by someone who shot the bullet (dart) at the prey. (72a) is unacceptable if it is considered to be a sentence uttered by, say, one of the tourists who just got off their sightseeing bus. This seems to be due to the fact that he/she cannot see the bullet (dart). However, if the dart were an arrow with feathers, the sentence would be judged acceptable even if it was uttered by such a tourist. (73b) involving the verb *utu* ‘hit’ is also acceptable, unlike (73a).

The above discussion seems to show that there are a wide range of counter-examples that cannot be dealt with by the constraint in (67), and that the acceptability of the ‘*-te aru*’ construction does not depend simply on verb types alone, but on the meaning that the sentence expresses as a whole.

It should be noted here that the unacceptability of (65a–g) that Miyagawa and Kageyama have presented can also be explained by the account given in (62) in traditional Japanese grammar and Japanese language teaching. In (65a), someone’s liking for ice cream is not an action, to begin with, but a psychological state. Therefore, no result has been brought about. In (65b), even if someone is praised, it is usually the case that no result is left on him/her. In (65c), likewise, even if someone is hit, this action does not usually bring about any observable result on him/her. The same applies to the other examples in (65). However, the acceptability of the (b) examples in (68)–(73) poses a serious problem to the account in (62) as well, showing that the notion of a result (as well as a change of state/location) is not adequate to account for the acceptability status of sentences of the ‘*-te aru*’ construction.

## 3.2 A functional analysis of the ‘*X-ga ... -te aru*’ construction

Let us now turn to discuss in this section the real conditioning factors for the acceptability status of the ‘*X-ga ... -te aru*’ construction and offer our functional constraints on the construction.

### 3.2.1 An actor or an observer?

We have pointed out in the preceding subsection that the acceptability of Kageyama’s unacceptable example (72a) (=65f: *\*Tama ga emono ni utte aru*) varies depending on who utters this sentence; it is unacceptable if uttered by, say, a tourist who just got off his/her sightseeing bus. This is because the tourist (=an observer/the speaker) is not sure whether someone (=an actor) shot a dart at the tiger. On the other hand, it is acceptable if uttered by the actor himself (=the speaker) because he knows that he performed that action. The acceptability of (72b) (=Saimindan *ga sudeni ippatu ano tora ni utte aru node, suguni nemuru desyoo.*) is attributable to the same reason – the speaker is a warden of the park and he himself shot a dart at the tiger, or knew

that his colleague did. This indicates that it is essential for us to consider not only the case in which the actor of an action described in the ‘*-te aru*’ construction is different from the observer (=the speaker) of the action, but also the case in which they are the same person.

In the case of events in which an action causes an object to change state or location, an observer (=the speaker), even if he/she is not the doer of the action, can understand that some action was performed in the past simply because he/she can see a resultative state of the object. Hence (61a–c), (63a, b) and (64a, b) are acceptable. But in the case of events in which an action does not cause an object to change state or location, the fact that this action was performed in the past is evident only to the doer of the action, but not to an observer, who cannot see any change of state for the object. Hence (65b–g) are unacceptable on the assumption that they are uttered by someone (=an observer) who is different from the doer of the action described in each of them. On the other hand, the (b)-examples of (68)–(73) (except (71b)) are acceptable because it is clear that they are uttered by the actor himself/herself who performed the action described in each of these sentences. In (71b), the actor of holding the children’s hands (i.e. their parents) and the observer (i.e. the tour guide=the speaker) are different, but in this case, the observer has advised the parents to hold their children’s hands tightly when they cross the rope bridge. The acceptability of (72a) (=65f) on the interpretation that the dart is assumed to be an arrow with feathers (even if uttered by someone other than the doer of this action) is attributable to the fact that the speaker can understand that this action was performed by observing the arrow with feathers.

The above consideration can now be summarized as in the following.

- (74) In order for the ‘*V-te aru*’ construction to be acceptable, the speaker (observer) has to have clear evidence that the action that the V represents has been performed.

When the actor of the V is the speaker himself/herself, the speaker can be said to have clear evidence of what he/she has done, even if he/she cannot see the result of the action.

We are claiming in the above generalization that ‘*V-te aru*’ is a construction that represents the speaker’s direct evidentiality.

### 3.2.2 The significance of the state caused by an action

It is important to note here that Yoshikawa (1973) has already pointed out that there are some (exceptional) cases that cannot be dealt with by the account given in (62), presenting acceptable examples such as *hanasite aru* ‘has been talked about’, *mite aru* ‘has been seen’, and *happyoosite aru* ‘has been announced’ (see Teramura 1984:

147 for similar remarks). The actions that these verbs represent do not leave any observable resultative state behind, and therefore the acceptability of these examples cannot be accounted for by (62). Now, in order to capture the meaning of the ‘*-te aru*’ construction, we would like to employ the expression ‘the state caused by an action performed in the past is significant to the speaker at the moment of speech’. According to this definition, *Mado ga akete aru* ‘The window is open’ (=63a), for example, turns out to be an expression representing a resultative state brought about by the action of opening the window, because the window must be open at the moment of speech in order for the state caused by someone’s opening the window in the past to be significant at the moment of speech. On the other hand, *Sono koto ga moo minna ni hanasite aru* ‘That matter has already been talked about to everyone’ has a variety of implications at the moment of speech that are significant, such as ‘Everyone should remember that’, ‘I don’t have to repeat it to everyone’, or ‘Everyone should now be prepared for it’. Therefore, the difference in meaning between a simple past sentence like (75a) below and a ‘*-te aru*’ sentence like (75b) is that while the former simply describes an action performed in the past in an objective manner, the latter describes the significance at the moment of speech caused by the action performed in the past.

- (75) a. *Gakuseitati wa kono kyoku o itiban yoku rensyuusita.*  
 students TOP this music ACC best well practiced  
 ‘This is the piece of music that the students practiced most.’  
 b. *Kono kyoku ga itiban yoku rensyuusite aru.*  
 ‘This is the piece of music that has been practiced most.’

With the above in mind, let us compare (76a) and (76b).

- (76) [*Sensei ga koosya-kanrinin ni keetai-denwa de*]  
 teacher NOM school.building-custodian to cell-phone by  
 [‘a teacher saying to the custodian of the school building by cell phone’]  
*Kodomotati o turete konpyuutaasitu ni kita no desu ga,*  
 children ACC taking computer.room to came is but  
 ‘I came to the computer room with my students, but’  
 a. *\*Dareka ga doa ni kagi o kakemasita.*  
 someone NOM door DAT key ACC locked.POLITE  
 ‘Someone locked the door.’  
 b. *Doa ni kagi ga kakete arimasu.*  
 ‘The door is locked.’

(76a) is unacceptable because someone's past action of locking the door is incongruous with the present situation that the teacher and his/her students are facing. (76b), on the other hand, is acceptable because the '*-te aru*' construction expresses the present situation in which the teacher and his/her students are in trouble, and therefore someone's past action of locking the door is congruous with its significance at the moment of speech.

### 3.2.3 Intentional actions performed for some future purpose

As stated in (62ii) in Section 3.1, it has been claimed in the fields of traditional Japanese grammar (Matsushita 1924 and Yoshikawa 1973) and Japanese language teaching (for example, the Japanese textbook *Minna no nihongo shokyū* [Elementary Japanese for everyone] 2001: 54–55) that the '*-te aru*' construction implies that the actions described in the construction have been performed in preparation for something. Since such actions are necessarily intentional, we use the term 'intentional actions in preparation for something' to refer to this constraint. In this subsection, we show that this constraint is too restrictive, and propose instead a constraint based on 'intentional actions for some future purpose' because there are numerous intentional actions that can show up in this construction that are not performed in preparation for something.

We will first give examples which appear to show that the 'intentional actions in preparation for something' constraint seems to work.

- (77) a. *Sakana ga yaite aru.*  
           fish    NOM grill is  
           'The fish has been grilled.'
- b. *\*Ie ga yaite aru.*  
           house NOM burn is  
           'The house has burned down.'
- (78) a. *Tume ga kireini kitte aru.*  
           nail    NOM neatly cut is  
           'My (His/Her, etc.) nails have been cut neatly.'
- b. *\*Yubi ga ippon kitte aru.*  
           finger NOM one cut is  
           'One finger has been cut off.'

While (77a) and (78a) are acceptable, (77b) and (78b) are not. Grilling fish and cutting nails are intentional actions performed in preparation for something (as well as for

some future purpose), but ordinarily, burning down a house and cutting a finger are unintentional events that unfortunately happen by accident. Therefore, the ‘intentional actions in preparation for something’ constraint (as well as our constraint) has no difficulty explaining the acceptability of (77a) and (78a) and the unacceptability of (77b) and (78b).

The validity of our claim is borne out by the fact that the acceptability of the following sentence, in which it is shown that the act of burning down a house is intentionally performed for some future purpose, unlike (77b).

- (79) [*Hooka-hannin no hitorigoto*]  
 arsonist GEN talk.to.oneself  
 [‘an arsonist talks to himself’]

*Aitu no ie wa moo yaite aru kara, syuttyoo*  
 that.guy GEN house TOP already burn is since business.trip  
*kara kaette kitemo sumu tokoro wa nai zo. Zamaa miro!*  
 from come.back even.if live place TOP no SFP serves.him.right  
 ‘Since that guy’s house is already burned down, he has no place to live in  
 when he comes back from his business trip. That serves him right!’

Here it is difficult to consider the arsonist’s act of burning down the house of the person under discussion as having been performed in preparation for something, but it is easy to assume it as having been done for some future purpose (in this particular example, for making him suffer when the person under discussion returns home), and therefore we can say that the notion of ‘for some future purpose’ works better than that of ‘in preparation for something’.

Now we will give examples which clearly show the difference between our constraint and the ‘intentional actions in preparation for something’ constraint.

- (80) a. *Konna tokoro ni gomi ga sutete aru.*  
 such place in trash NOM throw.away is  
 ‘(Lit.) Trash is thrown away in such a place.’  
 ‘(Nonlit.) How could someone throw trash away in a place like this?’  
 b. *Konna tokoro ni rakugaki ga site aru.*  
 such place in graffiti NOM do is  
 ‘(Lit.) There is graffiti in such a place.’  
 ‘(Nonlit.) I can’t believe there is graffiti in a place like this.’

The speaker in (80a, b), that is, the observer of the events described, would not think that the actor performed the act of throwing away trash or of writing graffiti in preparation for something. Therefore, it seems inappropriate to assume that actions described in the ‘-te aru’ construction are all performed in preparation for some-



thing: it seems to be too strong. However, the actor can be considered to have performed such an act with some future purpose in mind, say, to tidy up his/her things, or to leave what he/she wants to express for the public to see. Therefore, it seems appropriate to consider the actions described in the ‘*-te aru*’ construction as those performed by the actor for some future purpose, and not as those performed in preparation for something. This notion of ‘for some future purpose’, as the above discussion implies, has resulted from differentiating the two interpretations of the actions performed ‘in preparation for something’; that is, one from the observer’s standpoint and the other from the actor’s standpoint, and we have shown that it is necessary to restrict the interpretation for the ‘*-te aru*’ construction to the actions from the actor’s standpoint.

From the above discussion, the unacceptability of Miyagawa’s (1989: 58–59, 61) examples given below is automatically accounted for.

(81) a. \**Aisukuriimu ga kononde aru.* (=65a)

b. \**Hanako ga aisite aru.*

NOM love is

‘\*Hanako is loved.’

c. \**Kurasumeeto ga kiratte aru.*

classmate NOM hate is

‘A classmate is hated.’

*Konomu* ‘like’, *aisuru* ‘love’, and *kirau* ‘hate’ all represent unintentional psychological states, and not intentional actions performed for some purpose; hence the unacceptability of (81a–c) results.

Uniting all the above discussions, we now propose the following hypothesis.

(82) **The Functional Constraint on the ‘X-ga ... *-te aru*’ Construction:**

The ‘X-ga ... *-te aru*’ construction is an expression that shows that

- (i) the speaker (the hearer in the case of interrogative sentences) has direct evidence that the intentional action the verb represents was performed by someone for some future purpose,<sup>14</sup> and that
- (ii) the state caused by the action is significant to the speaker at the moment of speech.

<sup>14</sup> There is a brief description of the ‘*-te aru*’ construction in Jacobsen (1991: 38–39, 139). In this description, he uses the term ‘for some future purpose’ twice. Therefore, it might be thought that the claim we are making here is not an original one. But Jacobsen uses the term ‘for some future purpose’ together with the verb ‘prepare’, saying that the construction is used to indicate that the action under discussion has been performed on an entity ‘in order to prepare it for some future purpose’. Therefore, it seems to us that his generalization is based on the earlier claim by traditional grammarians and those in Japanese language teaching that ‘the action described in this construction has been performed in preparation for something’ (see 62ii).

Recall here that ‘the state caused by the action’ described in (82ii) is the state of the surface subject referent (‘X-*ga*’), which corresponds to the object of a transitive verb. For example, the subject *yasai* in *Yasai ga kitte aru* ‘The vegetables have been cut.’ (=61a) corresponds to the object of the verb *kiru* ‘cut’. Thus, it seems clear that the ‘X-*ga* ... -*te aru*’ construction is, so to speak, a passive-like expression, describing the present state brought about by an intentional action performed by someone in the past, with focus on the patient/theme, and not on the actor/agent.

### 3.3 Other types of the ‘-*te aru*’ construction

In this subsection, we will briefly discuss the intransitive ‘-*te aru*’ construction and what we call the ‘X-*o* ... -*te aru*’ construction. We will point out here that while the acceptability of these two constructions can be dealt with neither by (62) nor by (67), it can automatically be accounted for by our constraint (82).

#### 3.3.1 The ‘-*te aru*’ construction involving intransitive verbs

Let us briefly examine here the ‘-*te aru*’ construction involving intransitive verbs. Observe first the following examples.

- (83) a. \**Kenkyuusitu no doa ga simatte aru.*  
           office           GEN door   NOM close   is  
           ‘The door of the office is closed.’
- b. \**Inu ga mitibata de sinde aru.*  
           dog   NOM   roadside by die   is  
           ‘A dog is dead by the roadside.’
- c. \**Ike no mizu ga kootte aru.*  
           pond GEN water NOM freeze is  
           ‘The water of the pond is frozen.’

(83a–c) involving the intransitive verbs *simaru* ‘close’, *sinu* ‘die’, and *kooru* ‘freeze’ are all unacceptable; They must be expressed by the use of the ‘-*te iru*’ construction (see Section 2.3), like *simatte iru* ‘is closed’. Now, why are (83a–c) unacceptable? It is because the events described in these sentences are not intentional actions performed by human beings, which violates the Functional Constraint in (82).

Now what about the following examples, in which intentional action verbs are used?

- (84) a. \**Kodomotati ga butai de odotte aru.*  
 children NOM stage on dance are  
 'The children have danced on the stage.'
- b. \**Sensyutati ga gurando o hasitte aru.*  
 players NOM field around run are  
 'The players have run around the field.'
- c. \**Sagyooiin ga koozi-genba de hataraitte aru.*  
 worker NOM construction-site at work is  
 'The workers have worked at the construction site.'

(84a–c) are also unacceptable. This must be due to the fact that it is not clear to the speaker (=the observer) whether the intentional actions described in these sentences were in fact performed in the past by the subject referents (=the actors), since the speaker has no evidence for it (see (74)). Hence (84a–c) are unacceptable, in violation of the Functional Constraint in (82).

Unlike (83a–c) and (84a–c), the following examples involving intransitive verbs are (nearly) acceptable.

- (85) a. *Ano pittyya wa huyubani tappuri hasirikonde aru node,*  
 that pitcher TOP wintertime a.lot run is since  
*entyoosen ni haittemo daizyoobu da.*  
 extra.inning.game into go all.right SFP  
 'Since that pitcher ran a lot in the winter, he will be all right even if they go into extra innings.'
- b. *Yuube wa moo zyuubun nete aru kara, kyoo*  
 last.night TOP already well sleep is since today  
*wa tetuya o sitemo daizyoobu da.*  
 TOP stay.up.all.night all.right SFP  
 'I slept well last night, so I'll be all right even if I stay up all night tonight.'  
 (adapted from Jacobsen 1991: 197)
- c. *Daigaku zidai ni moo zyuubun asonde arimasu*  
 college period in already well play is.POLITE  
*kara, korekarawa sigoto ni sennen simasu.*  
 since from.now.on work to devote  
 'I enjoyed myself a lot at college, so I'll now devote myself to work.'  
 (adapted from Miyagawa 1989: 58)

The speaker of (85a) knows that the pitcher in question ran a lot in the winter. The speaker of (85b) also knows that he himself slept well last night. Likewise, the speaker of (85c) knows that he/she enjoyed himself/herself a lot at college. In short, in these sentences it is obvious to the speaker (=the observer) that the intentional actions described in (85a–c) were performed by the subject referents (=the actors) for some purpose. Therefore, the Functional Constraint in (82), without any need for modification, can apply to the ‘*-te aru*’ construction involving intransitive verbs, and can account for its acceptability.

On the other hand, it should be noted that Kageyama’s constraint in (67) and a constraint similar to it proposed by Miyagawa apply only to the ‘*-te aru*’ construction involving transitive verbs, and therefore cannot capture the acceptability of the ‘*-te aru*’ construction involving intransitive verbs. The account in (62) cannot, either, because ordinarily, no observable result is left behind even if a pitcher ran a lot, or someone slept well or enjoyed himself/herself a lot.

Let us state here the difference between the transitive and the intransitive ‘*-te aru*’ constructions. As stated in the preceding subsection, the former is a passive-like expression, describing the action in question with focus on the patient/theme, suppressing the actor/agent, but the latter is an active-like expression, describing it with focus on the actor/agent. The property that the latter construction has holds true of the ‘*X-o -te aru*’ construction that we will briefly examine in the next subsection.

### 3.3.2 The ‘*X-o ... -te aru*’ construction

The ‘*X-ga ... -te aru*’ construction that we have discussed in Sections 3.1 and 3.2 is of the type in which the subject *X* is the original object of a transitive verb. There is another type of the ‘*-te aru*’ construction in which the object of a transitive verb remains on the surface as it is, marked with *-o*, as shown below.

- (86) a. *Boku wa sono hon o moo yonde aru.*  
           I       TOP that book ACC already read am  
           ‘I have already read that book.’

- b. *Hiroshi-kun wa natuyasumi no shukudai o*  
               TOP summer.vacation GEN homework ACC  
           *moo yatte arun datte.*  
           already do is I.hear  
           ‘Hiroshi told me that he had already finished his homework for the  
           summer vacation.’

We will call this type of the ‘*-te aru*’ construction the ‘*X-o ... -te aru*’ construction, distinguishing it from the ‘*X-ga ... -te aru*’ construction. The characteristic of the ‘*X-o ... -te aru*’ construction is that the subject of the transitive verb, i.e. the actor/agent of the action described, appears on the surface, as in (86a, b) (*Boku* ‘I’ and *Hiroshi-kun* ‘Hiroshi’), since the object is marked with *-o*. The acceptability of (86a, b) is accounted for by the Functional Constraint in (82); reading a book or doing one’s homework is an action performed intentionally for some purpose. In (86a) the person who read that book is the speaker himself, and therefore it is obvious to the speaker that he did so in the past. In (86b), the person who did his homework is Hiroshi, not the speaker, but the speaker knows it because it is obvious from context that he has heard about it from Hiroshi or someone else.

Now observe the following contrasting pairs of examples.

- (87) a. *\*Ano pittyya wa henkakyuu o kyattyya ni nagete aru.*  
 that pitcher TOP breaking.ball ACC catcher to throw is  
 ‘That pitcher has thrown breaking balls to the catcher.’
- b. [*Haru no kyanpu de tookyuu-rensyuu o siteiru*  
 spring GEN camp in pitching.practice ACC is.doing  
*pittyya ga kooti ni*  
 pitcher NOM coach to  
 [‘A pitcher practicing his pitching in a spring training game says to his coach’]
- (*Watasi wa kinoo madeni moo zyuubun*  
 I TOP yesterday by already enough  
*henkakyuu o nagete arimasu kara, kyoo wa*  
 breaking.ball ACC throw am.POLITE since today TOP  
*sutoreeto ni torikumitai to omoimasu.*  
 fastball to want.to.work.on that think  
 ‘I threw so many breaking balls up until yesterday, so today I want to start working on fastballs.’)
- (88) a. *\*Karera wa monbusyoo-syooka*  
 they TOP song.authorized.by.the.Ministry.of.Education  
*akatonbo o utatte aru.*  
 red.dragonfly ACC sing are  
 ‘They have sung the song “Red Dragonflies” authorized by the Ministry of Education.’

- b. [Gassyoo-konkuuru ni muketeno rensyuu no bamen]  
 choral.competition to for practice GEN situation  
 ['Situation: Practice for a choral competition']
- Watasitati wa kadaikyoku o moo zyuubun utatte*  
 we TOP assigned.piece ACC already a.lot sing  
*arimasu kara, zyunbi-bantan desu.*  
 are.POLITE since all.set SFP  
 'Since we have already sung the assigned piece a lot, we are all set.'

If (87a) is uttered in isolation, there is no evidence showing that the speaker (=the observer) knows that the pitcher threw breaking balls to the catcher in the past. Since the sentence violates the Constraint in (82), it is unacceptable. In contrast, in (87b) it is the speaker himself (=the pitcher) that had had enough practice for breaking balls up until the day before. Therefore, (87b) is acceptable, satisfying the Constraint in (82). The same is the case with the difference between (88a) and (88b).

Finally, let us compare the following two instances of the '-te aru' construction.

- (89) a. *Oisii koohii-mame ga katte aru.* [X-*ga* ... -te aru]  
 delicious coffee.bean NOM buy is  
 'Delicious coffee beans have been bought.'
- b. (*Watasi wa*) *oisii koohii-mame o katte aru.* [X-*o* ... -te aru]  
 'I have bought delicious coffee beans.'

While (89a), focusing on delicious coffee beans, emphasizes that they are at hand, (89b), focusing on the speaker's present state, emphasizes that he/she has delicious coffee beans at hand, and is ready to make coffee. Thus, we can say that the 'X-*ga* ... -te aru' construction, as argued above, is a passive-like expression with focus on the patient/theme, whereas the 'X-*o* ... -te aru' construction, like the intransitive '-te aru' construction, is an active-like expression with focus on the actor/agent. We can further say that the '-te aru' construction itself, being independent of the notions of the patient/theme or the actor/agent, simply expresses (i) that it is obvious to the speaker (the hearer in the case of interrogative sentences) that the intentional action the verb represents was performed by someone for some future purpose, and (ii) that the state caused by the action is significant to the speaker at the moment of speech.

Note further that the acceptability of these three types of the '-te aru' construction can all be accounted for by the Functional Constraint in (82), now reformulated as in the following.

- (90) **The Functional Constraint on the ‘*-te aru*’ Construction:** The ‘*-te aru*’ construction is an expression that shows that
- (i) the speaker (the hearer in the case of interrogative sentences) has direct evidence that the intentional action the verb represents was performed by someone for some future purpose, and that
  - (ii) the state caused by the action is significant to the speaker at the moment of speech.

On the other hand, Kageyama’s constraint in (67) and Miyagawa’s similar constraint, which are intended to cover only the ‘*X-ga ... -te aru*’ construction, not only encounter crucial counterexamples, but also cannot apply to the intransitive ‘*-te aru*’ construction, as observed above, or to the ‘*X-o ... -te aru*’ construction. Similarly, the account based on the notion of ‘result’ given in (62) that has been claimed in the fields of traditional Japanese grammar and Japanese language teaching is also insufficient, although it seems intended to apply to all three types of the ‘*-te aru*’ construction, because in all three cases there are examples that are acceptable even if no result is left behind after an action is performed.

## 4 Concluding remarks

We have shown in this paper how important it is to take functional perspectives into account in the study of Japanese syntax. In Sections 2.1 and 2.2, we have reviewed two functional perspectives proposed in Functional Syntax – functional sentence perspective and empathy perspective, and shown that the former perspective is crucially important in analyzing the acceptability of Japanese discourse deletion, as is the latter in analyzing why one particular expression in Japanese rather than some others is chosen in a given context. In Section 2.3, we have briefly reviewed Kuno and Takami’s (2003) and Takami and Kuno’s (2006: ch. 3) functional approach to the ‘*V-kake-no N*’ construction, and shown that the acceptability of this construction is not dependent on the unergative-unaccusative distinction, as claimed by Kishimoto (1996), but on the semantic/functional factors formulated in the constraint stated in (58). We have also observed in Section 2.3 seven other Japanese constructions that have been claimed to be accounted for by the unergative-unaccusative distinction, and reviewed crucial counterexamples presented by Takami and Kuno (2002, 2006) and Kuno and Takami (2003). These discussions show that these seven constructions must also be considered to be dependent on nonsyntactic (semantic, discourse-based, or pragmatic) factors, as argued in Takami and Kuno (2002, 2006) and Kuno and Takami (2003), rather than on the unergative-unaccusative distinction.

In Section 3, we have discussed the ‘*-te aru*’ construction in Japanese from a functional perspective. We first made it clear that the past analyses depending on whether a result brought about by an action is still in existence at the moment of

speech (see (62)), or on whether an object has undergone a change in state or in location (see (67)), are inadequate to account for the acceptability status of this construction. Next we argued that it is essential to differentiate the actor (agent) of the action described in the ‘*-te aru*’ construction from the observer (speaker) of the action, and showed that this functional perspective has been lacking in the previous analyses. Then we proposed the Functional Constraint on the ‘*-te aru*’ construction in (90), and showed that this constraint can capture the acceptability of a wide range of examples not only of the ‘*X-ga ... -te aru*’ construction but also of the intransitive ‘*-te aru*’ construction and the ‘*X-o ... -te aru*’ construction.

In discussing the ‘*-te aru*’ construction in Section 3, we have pointed out that Yoshikawa (1973) and Teramura (1984: 147) were already aware of the existence of sentences such as *mite aru* ‘has been seen’ and *hanasite aru* ‘has been talked about’ that could not be accounted for by their own hypothesis. Seeing or talking about something does not leave any observable result behind. Therefore, these examples constitute counterexamples to the account of the ‘*-te aru*’ construction given in (62). Unfortunately, however, they were regarded as only minor exceptions, few in number, to the account in (62). Although such examples were no longer mentioned in Miyagawa (1989) and Kageyama (1996), we have shown in Section 3 that there are numerous examples of this type, and that they actually serve as an important step toward a full understanding of the ‘*-te aru*’ construction. Therefore, there seems to be a valuable lesson here for future research in syntax (or in linguistics in general). We must first collect a large number of examples and examine carefully the full range of relevant data. Then we have to attempt to discover the real conditioning factors that lie behind such data. It seems that we must refrain from seeking only theoretical elegance or simplicity, while leaving counterexamples to the initial set of data out of consideration.

We have shown in this paper numerous pairs of contrasting examples in which the same verbs are used. Let us repeat just a few of them here (see further (39b), (48a), (56a, b), (59a, b), (68a, b), (69a, b), (70a, b), (71a, b), (73a, b), (77a, b), (78a, b), (87a, b), (88a, b)).

- (91) a. \**Kanzya wa sibosaserarete simatta.* (unaccusative) (=40b) (Kageyama)  
 ‘\*The patient was made to die.’
- b. *Sinzoo-isoyoku ni saigo-no nozomi o kaketa sono kanzya wa, muzan-nimo isi no sittoo no misu ni-yori sibosaserarete simatta.* (=49a)  
 ‘The patient, who had set his last hope on a heart transplant, was caused to die because his/her doctor made a mistake in performing the operation.’
- (60) a. ?\**mituke-kake-no takaramono* (Kishimoto 1996: 261)  
 ‘treasure that someone is about to find’
- b. √/?*mituke-kake-no syoorai no mokuhyoo*  
 ‘a future goal that someone is about to discover’



- (72) a. \**Tama ga emono ni **utte aru.*** (=65f) (Kageyama)  
 ‘A bullet (dart) has been shot at the prey.’
- b. *Saimindan ga sudeni ippatu ano tora ni **utte aru node,** suguni nemuru desyoo.*  
 ‘Since the tiger has already been shot with a tranquilizer dart, I think it will lose consciousness soon.’

The difference in acceptability in each pair of the examples above clearly demonstrates that it is futile to attribute the acceptability of a sentence only to a property of the verb. The acceptability of a sentence is a complex phenomenon determined by the interaction of all the elements in the sentence, and it is deeply affected by the context in which the sentence is placed, as shown by the difference in acceptability between (91a) and (91b) and between (72a) and (72b). Therefore it seems that we have another lesson here for future research; it is not sufficient to concentrate only on part of a sentence when we attempt to understand the acceptability status of the sentence; it is important to consider the meaning of the whole sentence and the context in which it is placed.<sup>15</sup>

One final lesson for future research can be drawn from the acceptability judgments given to (60a, b). As is often the case, the acceptability of a sentence is not just yes or no, but contains various degrees such as ‘marginal’ or ‘passable’, and often fluctuates from speaker to speaker. This seems to imply that the phenomenon under consideration is not determined by syntax alone, but is also affected by non-syntactic factors. Therefore, it seems necessary to carry out research in syntax paying close attention to degrees of acceptability, and keeping in mind that non-syntactic factors may be involved.

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<sup>15</sup> This lesson may remind the reader of the approach of Construction Grammar, whose basic tenet is that constructions themselves carry meaning, independently of the words in the sentence (see Fillmore 1985, 1988, 1989, Fillmore, Kay and O’Connor 1988, Kay 1990, 2002, Goldberg 1992, 1995, 2006, Michaelis 1993, Michaelis and Lambrecht 1996, Kay and Fillmore 1999, among others). In fact, our Functional Syntax analysis and their Construction Grammar analysis, as we have pointed out in Kuno and Takami (2004), have one thing in common – both attempt to account for the constraints under which a given construction can be used felicitously, with the conviction that subtle semantic and pragmatic factors are crucial to understanding the constraints on grammatical constructions. However, there are of course various differences between the two both in theory and in the phenomena examined, and the reader is referred to Kuno and Takami (2004: chs 1 and 3).

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## 7 Locative alternation

### 1 Introduction

As in many other languages, there is a diathesis alternation called *locative alternation* in Japanese, in which alternatively a locatum or a location can be realized as direct object.<sup>1</sup> Thus in (1a) a locatum (*penki* ‘paint’) is marked with an accusative marker *o* and a location (*kabe* ‘wall’) with *ni* ‘into/onto’, whereas in (1b) a location (*kabe* ‘wall’) is *o*-marked and a locatum *de* ‘with’-marked. For convenience’s sake, the two variants will be referred to as a *ni* ‘into/onto’-variant and a *de* ‘with’-variant.

- (1) a. *kabe ni penki o nuru* (ni-variant)  
wall on paint ACC smear  
‘smear paint on the wall’
- b. *kabe o penki de nuru* (de-variant)  
wall ACC paint with smear  
‘smear the wall with paint’

In Japanese word order is relatively free, so that the *ni* ‘into/onto’-variant may be realized either as [NP-*o* NP-*ni* V] or as [NP-*ni* NP-*o* V], and the *de* ‘with’-variant either as [NP-*o* NP-*de* V] or as [NP-*de* NP-*o* V]. Apart from this possibility for different word orders, the locative alternation in Japanese seems very similar to that in English, as exemplified in (2).

- (2) a. *John sprayed paint onto the wall.* (locatum-as-object variant)
- b. *John sprayed the wall with paint.* (location-as-object variant)

In fact, as far as the locative alternation with *spray/load* verbs is concerned, the locative alternation seems to be fundamentally the same across English and Japanese. Thus it is well-known that a holistic interpretation tends to be observed with the location-as-object variant, but not with the locatum-as-object variant: The paint ends up being all over the wall in (2b), but this is not necessarily the case with (2a). Hence the contrast between (3a) and (3b).

- (3) a. *John sprayed paint on the wall, but most of the wall didn’t get any paint on it.*
- b. *?\*John sprayed the wall with paint, but most of the wall didn’t get any paint on it.*

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<sup>1</sup> These terms are borrowed from Clark & Clark (1979).

A parallel contrast is observed between the *ni* ‘into/onto’-variant and the *de* ‘with’-variant.<sup>2</sup>

- (4) a. *kabe ni penki o nut-ta kedo kabe-no-daibubun wa*  
 wall on paint ACC smear-PST though wall-GEN most TOP  
*nurarete inai*  
 smeared not  
 ‘I smeared paint on the wall, but most of the wall is not smeared’
- b. ?\**kabe o penki de nut-ta kedo kabe-no-daibubun*  
 wall ACC paint with smear-PST though wall-GEN most  
*wa nurarete inai*  
 TOP smeared not  
 ‘I smeared the wall with paint, but most of the wall is not smeared’

However, in contrast to Japanese, in English another type of alternation involving verbs of removal is also available, as shown in (5).

- (5) a. *John cleared dishes from the table.*  
 b. *John cleared the table of dishes.*

Thus in Japanese (6b), which is the supposed counterpart of (5b), is not possible.<sup>3</sup>

- (6) a. *teeburu kara sara o katazakeru*  
 table from dishes ACC clear  
 ‘clear dishes from the table’
- b. \**teeburu o sara de katazakeru*  
 table ACC dishes with clear  
 ‘clear the table of dishes’ (Fukui, Miyagawa and Tenny 1985: 15)

Now in the literature, formally oriented scholars have tended to assume that argument structure alternations (including the locative alternation) can be accounted

<sup>2</sup> When a verb is accompanied by a suffix or another word, its ending often changes: *nuru* ‘smear’ + *ta* (PST) = *nut-ta* (‘smear PST’); *haru* (‘put.up’) + *tukusu* (exhaust) = *hari-tukusu* (‘put.up-exhaust’).

<sup>3</sup> Fukui, Miyagawa and Tenny (1985) observe that the intended meaning can be conveyed by (i), which literally means “to clear the table’s dishes.”

(i) *teeburu-no sara o katazakeru*  
 table-GEN dishes ACC clear  
 ‘clear the table of dishes’

(Fukui, Miyagawa and Tenny 1985: 19)

But to identify (i) as a counterpart of (5b) would be stretching the notion of locative alternation too far.

for by means of a single, neatly formulated rule (or its equivalent). This is true of the previous studies on the locative alternation in Japanese as well: All the previous analyses have attempted to attain a blanket generalization by means of a single rule or a single notion in the lexicon, as will be shown immediately below.

The purpose of this chapter is to demonstrate: (1) that no single rule or single notion can properly account for the locative alternation, and (2) that the locative alternation is in fact not to be accounted for by means of a purely lexical process.

## 2 Previous analyses

### 2.1 Kageyama (1980)

As far as I know, Kageyama (1980) is the earliest analysis of the locative alternation in Japanese. In order to account for a range of case alternation phenomena in Japanese (including the locative alternation), Kageyama (1980) posits a lexical rule in (7).

(7) Theme Transfer

$$\begin{bmatrix} \text{Theme} \\ X \end{bmatrix} [\text{LOC}] \rightarrow [X] \begin{bmatrix} \text{LOC} \\ \text{Theme} \end{bmatrix}$$

(LOC is a cover symbol for Location, Goal, and Source) (Kageyama 1980: 55)

This rule transfers the Theme role of a NP to a locational NP in the lexicon. Since the Theme role is assumed to correspond to the direct object position in transitive sentences, this rule will effect the object alternation.

Now the locative alternation is claimed to result from one application of this rule. Thus the *ni* ‘into/onto’-variant in (8a) is turned into the *de* ‘with’-variant in (8b).

(8) a. [Agent]  $\begin{bmatrix} \text{Theme} \\ \text{Instru.} \end{bmatrix}$  [Goal] V

(*Watasi ga penki o kabe ni nuru*)

→ b. [Agent] [Instru.]  $\begin{bmatrix} \text{Goal} \\ \text{Theme} \end{bmatrix}$  V

(*Watasi ga penki de kabe o nuru*)

(Kageyama 1980: 56)

One serious shortcoming of this analysis is that it does not say anything about when the Theme Transfer rule applies and when not. Simply stating that the rule applies when the verb enters into an alternation, but does not apply when the verb does not enter into an alternation, does not really account for anything.

## 2.2 Fukui, Miyagawa, and Tenny (1985)

Fukui, Miyagawa and Tenny (1985) is probably the first serious attempt to address the question of when and why the locative alternation arises in Japanese. Fukui, Miyagawa and Tenny (1985) observe that there are three types of Japanese verbs, as far as the possibility of alternation is concerned: First, *oku* ‘put’ does not alternate, as shown in (9).

- (9) a. *hon o tukue ni oku*  
           book ACC desk on put  
           ‘put a book on the desk’  
       b. *\*tukue o hon de oku*  
           desk ACC book with put  
           ‘put a desk with a book’

Next, *maku* ‘sprinkle’ does not alternate either, as shown in (10b). Remarkably, though, the complex verb *maki-tukusu* ‘sprinkle-exhaust’ may appear in the *de* ‘with’-variant, as in (10c).

- (10) a. *mizu o hodoo ni maku*  
           water ACC sidewalk on sprinkle  
           ‘sprinkle water on the sidewalk’  
       b. *\*hodoo o mizu de maku*  
           sidewalk ACC water with sprinkle  
           ‘sprinkle the sidewalk with water’  
       c. *hodoo o mizu de maki-tukusu*  
           sidewalk ACC water with sprinkle-exhaust  
           ‘sprinkle the sidewalk completely with water’

(Fukui, Miyagawa and Tenny 1985: 24)

And third, verbs like *nuru* ‘smear’ alternate, as seen in (1).

In order to distinguish the three types properly, Fukui, Miyagawa and Tenny (1985) claim that in order for a verb to enter into the locative alternation, (1) the verb must take two arguments, and (2) the Lexical Conceptual Structure (=LCS) of the verb must include an ‘Affect’ clause.

### (11) Conditions for the Alternation

- (i) The verb takes two arguments *x*, *y* in its LCS; and
- (ii) One of its arguments (*y*) is affected by the action represented by the meaning of the verb (‘Affect *y*’) (Fukui, Miyagawa and Tenny 1985: 44)



All three types of verbs take two (internal) arguments, but are claimed to differ from each other as follows. With *nuru* ‘smear’ type verbs, one argument is affected by the action, thereby satisfying both of the conditions. By contrast, *maku* ‘sprinkle’ type verbs and *oku* ‘put’ type verbs lack the sense of ‘Affect,’ which accounts for their failure to alternate. But the existence of some material is necessarily implied with *maku* ‘sprinkle’ type verbs but not with *oku* ‘put’ type verbs: “What can be the ‘material’ of *maku* is highly restricted (some liquid that can be ‘sprayed’) while no such restriction is placed on the object noun of the verb *oku* ‘put’” (Fukui, Miyagawa and Tenny 1985: 40).

Consequently, Fukui, Miyagawa and Tenny (1985) differentially represent the three types of verbs as in (12): *oku* ‘put’ type verbs, which simply express a change of location; *maku* ‘sprinkle’ type verbs, which place a selectional restriction on the locatum (material) argument but which lack an ‘Affect’ clause; and *nuru* ‘smear’ type verbs, which place a selectional restriction on the locatum argument and possess an ‘Affect’ clause in the LCS.

- (12) a. LCS of *oku*: OKU x at some place y  
 b. LCS of *maku*: Realize the action MAKU by using the Material x  
 c. LCS of *nuru*: Realize the action NURU by using the Material x & Affect y  
 (Fukui, Miyagawa and Tenny 1985: 43)

Since *-tukusu* ‘exhaust’ compounding is claimed to bring in an ‘Affect’ clause, the LCS of *maki-tukusu* ‘sprinkle-exhaust’ will end up essentially the same as that of *nuru* ‘smear’ as in (13). Fukui, Miyagawa and Tenny (1985) claim that this is why *maku* ‘sprinkle’ cannot alternate but *maki-tukusu* ‘sprinkle-exhaust’ can.

- (13) LCS of *maki-tukusu*: Realize the action MAKU by using the Material x & Affect y  
 (Fukui, Miyagawa and Tenny 1985: 46)

According to Fukui, Miyagawa and Tenny (1985), therefore, what ultimately determines the possibility of alternation is the presence/absence of ‘Affect.’

Unfortunately, Fukui, Miyagawa and Tenny (1985) do not make clear what ‘Affect’ means. In the absence of a clear definition of the key notion, their account does not seem very promising.

## 2.3 Kishimoto (2001)

Kishimoto (2001), following Pinker (1989), characterizes the two variants of locative alternation in terms of change of location vs. change of state. However, Kishimoto equates change of state with ‘Affect,’ as is evident in his following statement: “Locative alternation is permitted for verbs whose meaning is broad enough to express the

two distinct meanings of a change of location (i.e. a transfer of an entity (material)) and a change of state (i.e. a change affecting a location)” (Kishimoto 2001: 60).

The same problem arises as before: It is not clear what it means for a change to “affect” a location.

### 3 Non-uniform semantics of the *de* ‘with’-variant

#### 3.1 The relevance of ‘cover’ semantics

How is the locative alternation to be accounted for, then? To find an answer to this question, let us begin by examining what is actually going on in the phenomenon called locative alternation. As is well-known, there are classes of verbs like *sosogu* ‘pour’ that only allow a *ni* ‘into/onto’-variant as in (14), as well as classes of verbs like *oou* ‘cover’ that only allow a *de* ‘with’-variant as in (15).

- (14) a. *koppu ni mizu o sosogu*  
           glass into water ACC pour  
           ‘pour water into the glass’

- b. *\*koppu o mizu de sosogu*  
           glass ACC water with pour  
           ‘pour the glass with water’

- (15) a. *\*nuno o teeburu ni oou*  
           cloth ACC table on cover  
           ‘cover a cloth over the table’

- b. *teeburu o nuno de oou*  
           table ACC cloth with cover  
           ‘cover the table with a cloth’

It is reasonable to assume that the *ni* ‘into/onto’-variant syntax and the *de* ‘with’-variant syntax are associated with identifiable semantics. Let us call them Property A and Property B, respectively. If one looks at distributional facts without any prejudice, then, a reasonable possibility that suggests itself is to suppose that *sosogu* ‘pour’ type verbs have Property A alone, *oou* ‘cover’ type verbs have Property B alone, and *nuru* ‘smear’ type verbs as in (16) have both.

- (16) a. *kabe ni penki o nuru*  
           wall on paint ACC smear  
           ‘smear paint on the wall’

- b. *kabe o penki de nuru*  
           wall ACC paint with smear  
           ‘smear the wall with paint’

Now what allows *nuru* ‘smear’ type verbs to have both Property A and Property B? What is crucial in this connection is that *nuru* ‘smear’ involves a liquid entity and a surface, with the liquid typically undergoing a back and forth movement of strokes over the surface, as depicted in Figure 1.

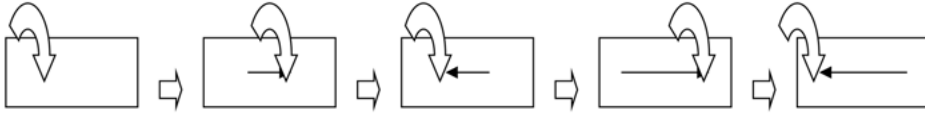


Figure 1: manner of *nuru* ‘smear’

Accordingly, the *nuru* ‘smear’ event may be described as in Figure 2.

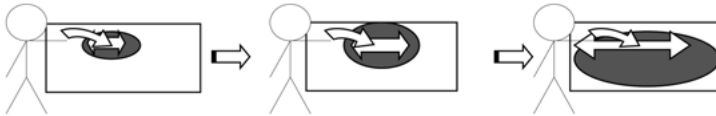


Figure 2: *nuru* ‘smear’ event

This scene is open to two interpretations. On the one hand, by focusing on the paint and its movement within the scene, we get the interpretation “to put paint onto the wall,” as in Figure 3.

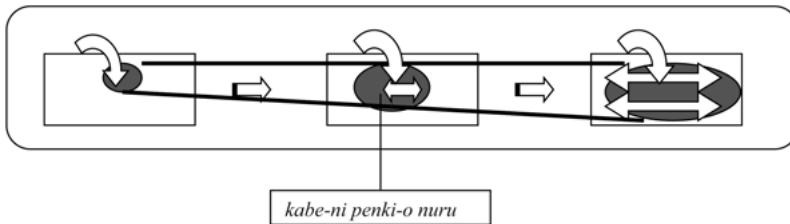


Figure 3: *ni* ‘into/onto’-variant of *nuru* ‘smear’

If, on the other hand, we focus on the wall, we get the interpretation “to cover the wall with paint,” as in Figure 4.

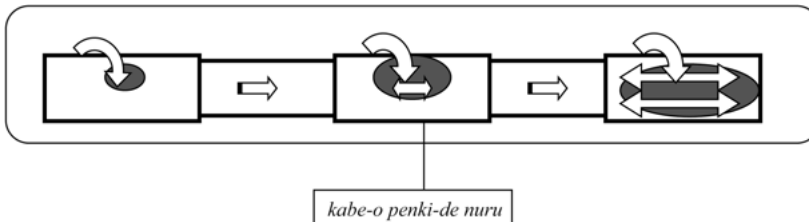


Figure 4: *de* ‘with’-variant of *nuru* ‘smear’

Now we can identify Property A and Property B. What is crucial for the *ni* ‘into/onto’-variant syntax is that the substance is moved onto the location. So this aspect may be characterized as change of location (= Property A). By contrast, what is essential to the *de* ‘with’-variant syntax is that the location comes to be covered with the substance. This is Property B. In what follows, this property, i.e. the location being covered with the substance, will be referred to as ‘cover’ semantics.

Note further that this account automatically explains why a holistic interpretation obtains with the *de* ‘with’-variant but not with the *ni* ‘into/onto’-variant, as noted at the outset in (4), repeated here as (17).

- (17) a. *kabe ni penki o nut-ta kedo kabe-no-daibubun*  
 wall on paint ACC smear-PST though wall-GEN most  
*wa nurarete inai*  
 TOP smeared not  
 ‘I smeared paint on the wall, but most of the wall is not smeared’
- b. *?\*kabe o penki de nut-ta kedo kabe-no-daibubun*  
 wall ACC paint with smear-PST though wall-GEN most  
*wa nurarete inai*  
 TOP smeared not  
 ‘I smeared the wall with paint, but most of the wall is not smeared’

Since the location entity comes to be covered in the *de* ‘with’-variant, it is no wonder that the paint ends up being all over the wall, thus nullifying the possibility of a majority of the wall not becoming smeared.

By contrast, a similar effect is rather hard to come by if one characterizes the *de* ‘with’-variant syntax in terms of ‘Affect’ or change of state. Proponents of the affectedness thesis claim that a holistic interpretation is one manifestation of affectedness (Pinker 1989), but among the number of linguistic phenomena that have been claimed to be explainable in terms of affectedness (e.g. middles (Hale & Keyser 1987, Levin & Rapoport 1988), the specifier of nominals (Anderson 1979, Rozwadowska 1988, among others)), locative alternation is practically the only area where a holistic interpretation supposedly counts as a specific type of affectedness.

Thus, it is the ‘cover’ semantics, rather than ‘Affect’ or change of state, that is responsible for the *de* ‘with’-variant syntax.

### 3.2 ‘Cover’-type and ‘fill’-type

The alternations exhibited by a number of other verbs can be similarly accounted for. Thus *haru* ‘stretch’, *maku* ‘wind’, *mabusu* ‘coat’, and *tiribameru* ‘inlay’ alternate as follows:

*haru* ‘stretch’

- (18) a. *kabe ni kabegami o haru*  
 wall on wall-paper ACC stretch  
 ‘spread wall-paper on the wall’
- b. *kabe o kabegami de haru*  
 wall ACC wall-paper with stretch  
 ‘spread the wall with wall-paper’

*maku* ‘wind’

- (19) a. *ude ni hootai o maku*  
 arm on bandage ACC wind  
 ‘wind a bandage around the arm’
- b. *ude o hootai de maku*  
 arm ACC bandage with wind  
 ‘wind the arm with a bandage’

*mabusu* ‘coat’

- (20) a. *kinako o moti ni mabusu*  
 soybean flour ACC rice cake on coat  
 ‘coat soybean flour on the rice cake’
- b. *moti o kinako de mabusu*  
 rice cake ACC soybean flour with coat  
 ‘coat the rice cake with soybean flour’

*tiribameru* ‘inlay’

- (21) a. *hoozeki o doresu ni tiribameru*  
 Jewel ACC dress on inlay  
 ‘inlay jewels on the dress’
- b. *doresu o hoozeki de tiribameru*  
 dress ACC jewel with inlay  
 ‘inlay the dress with jewels’

Note that in the *de* ‘with’-variants of all these examples the location entity seems to be characterizable as being covered.

But this is not the end of the story. There are other verbs whose *de* ‘with’-variants cannot be characterized in terms of the ‘cover’ semantics. Thus *tumeru* ‘stuff’ and *umeru* ‘bury, fill up’ alternate as in (22) and (23), which involve containers like a box or a hole being filled.

*tumeru* ‘stuff’

- (22) a. *hako ni itigo o tumeru*  
 box in strawberry ACC stuff  
 ‘stuff strawberries into the box’
- b. *hako o itigo de tumeru*  
 box ACC strawberry with stuff  
 ‘stuff the box with strawberries’

*umeru* ‘bury, fill up’

- (23) a. *ana ni gomi o umeru*  
 hole LOC trash ACC bury  
 ‘bury trash in a hole’
- b. *ana o gomi de umeru*  
 hole ACC trash with bury  
 ‘bury a hole with trash’

What seems to be relevant in this connection is the notion of being made full. In Japanese the phrase *ippai-ni suru* ‘make full’ is an apparent counterpart of *fill* in English. Crucially this verb may appear in the *de* ‘with’-variant syntax.

- (24) *gurasu o mizu de ippai-ni suru*  
 glass ACC water with make.full  
 ‘fill the glass with water’

Remarkably, the *de* ‘with’-variants of *tumeru* ‘stuff’ and *umeru* ‘bury, fill up’ may be paraphrased by using *ippai-ni suru* ‘make full’ as in (25).

- (25) a. *hako o itigo de ippai-ni suru*  
 box ACC strawberry with make.full  
 ‘make the box filled with strawberries’
- b. *ana o gomi de ippai-ni suru*  
 hole ACC trash with make.full  
 ‘make the hole filled with trash’

Thus both of the *de* ‘with’-variants in (22b) and (23b) are to be characterized in terms of the ‘fill’ semantics.

Furthermore there are some verbs in Japanese that involve a vertical arrangement of things, similar to English *pile* and *heap*: *yamamori-ni suru* ‘heap up’, *moritukeru* ‘dish up’, and *yamazumi-ni suru* ‘pile up’. These verbs enter into the locative alternation, as shown below.

*moritukeru* ‘dish up’

- (26) a. *sara ni gohan o moritukeru*  
 plate on rice ACC dish up  
 ‘dish up rice (high) onto the plate’

- b. *sara o gohan de moritukeru*  
 plate ACC rice with dish up  
 ‘dish up the plate (high) with rice’

*yamamori-ni suru* ‘heap up’

- (27) a. *yakisoba o sara ni yamamori-ni suru*  
 fried noodle ACC plate on mountain-high-heap do  
 ‘heap up fried noodles (high) on the plate’

- b. *sara o yakisoba de yamamori-ni suru*  
 plate ACC fried noodle with mountain-high-heap do  
 ‘heap up the plate (high) with fried noodles’

*yamazumi-ni suru* ‘pile up’

- (28) a. *tukue ni hon o yamazumi-ni suru*  
 desk on book ACC mountain-high-pile do  
 ‘pile up books (high) on the desk’

- b. *tukue o hon de yamazumi-ni suru*  
 desk ACC book with mountain-high-pile do  
 ‘pile up the desk (high) with books’

Again, the *de* ‘with’-variants of all these verbs may be paraphrased by using *ippai-ni suru* ‘make full’: The situations described by (26b), (27b), and (28b) may also be described by using *ippai-ni suru* ‘make full’, accordingly.

- (29) a. *sara o gohan de ippai-ni suru*  
 plate ACC rice with make.full  
 ‘dish up the plate (high) with rice’

- b. *sara o yakisoba de ippai-ni suru*  
 plate ACC fried noodles with make.full  
 ‘dish up the plate (high) with fried noodles’

- c. *tukue o hon de ippai-ni suru*  
 desk ACC book with make.full  
 ‘pile up the desk (high) with books’

Thus all the *de* ‘with’-variants in (26b) to (28b) are to be characterized in terms of the ‘fill’ semantics.

To sum up, the Japanese verbs that enter into the locative alternation divide into two types, depending upon whether the *de* ‘with’-variant is to be characterized in terms of the ‘cover’ semantics or the ‘fill’ semantics. The ‘fill’-type is further divided according to whether the verb involves filling a container or arranging things vertically.

‘cover’-type

- (30) *nuru* ‘smear’, *haru* ‘stretch’, *maku* ‘wind’, *tiribameru* ‘inlay’, *mabusu* ‘coat’

‘fill’-type

- (31) a. *mitasu* ‘fill’, *tumeru* ‘stuff’, *umeru* ‘bury’  
 b. *moritukeru* ‘dish up’, *yamamori-ni suru* ‘heap up’, *yamazumi-ni suru* ‘pile up’

These three types can be safely regarded as counterparts of the English alternating verbs, which can also be roughly divided into the corresponding three types.

- (32) a. spray, smear, scatter  
 b. load, pack, cram  
 c. pile, heap

### 3.3 Still other types

But there are still other types of complement alternation whose *de* ‘with’-variant cannot be characterized in terms of the ‘cover’ semantics or the ‘fill’ semantics. First, note that *sasu* ‘stick’ alternates as in (33), but a holistic interpretation is not required of the *de* ‘with’-variant. In (33b) only a tiny spot gets pricked.

- (33) a. *Hanako-no-te ni hari o sasu*  
 Hanako-GEN hand in needle ACC stick  
 ‘stick a needle in Hanako’s hand’  
 b. *Hanako-no-te o hari de sasu*  
 Hanako-GEN hand ACC needle with stick  
 ‘stick Hanako’s hand with a needle’

(Fukui, Miyagawa and Tenny 1985: 5–6)

Similarly, there are a couple of other verb classes that enter into the locative alternation but whose *de* ‘with’-variant does not seem to be characterizable in terms of ‘cover’ semantics or ‘fill’ semantics. The first class consists of verbs having to do with tying or fastening one thing around another: *kukuru* ‘tie up’, *sibaru* ‘bind’, and *tomeru* ‘fasten’.



- (34) a. *ki ni nawa o kukuru*  
 tree DAT rope ACC tie up  
 'tie rope around the tree'
- b. *ki o nawa de kukuru*  
 tree ACC rope with tie up  
 'tie the tree with rope'
- (35) a. *ki ni nawa o sibu*  
 tree DAT rope ACC bind  
 'bind rope around the tree'
- b. *ki o nawa de sibu*  
 tree ACC rope with bind  
 'bind the tree with rope'
- (36) a. *hako ni teepu o tomeru*  
 box DAT tape ACC fasten  
 'fasten tape around the box'
- b. *hako o teepu de tomeru*  
 box ACC tape with fasten  
 'fasten the box with tape'

What seems to be crucial for this group is the functional unity of the locatum and the location as a result of the verbal action. Thus the objects of (34)–(36), such as a tree or a box, are unified with the items being wrapped around them, but that unity can later be undone.

The second group may also be characterized by the fact that the locatum and the location attain functional unity as a result of the verbal action: *aeru* 'dress' and *karameru* 'entwine'.

- (37) a. *goma o kyuuri ni aeru*  
 sesame ACC cucumber LOC dress  
 'dress sesame into pieces of cucumber'
- b. *kyuuri o goma de aeru*  
 cucumber ACC sesame with dress  
 'dress pieces of cucumber with sesame'
- (38) a. *soosu o nikudango ni karameru*  
 sauce ACC meatball LOC enmesh  
 'enmesh sauce around a meatball'
- b. *nikudango o soosu de karameru*  
 meatball ACC sauce with enmesh  
 'enmesh a meatball with sauce'

Unlike the first group, however, the unity of the locatum and the location can no longer be undone. The locatum and the location are so closely intermingled with each other that they cannot be brought apart again, like the mixed elements of food in (37) and (38).

The third group has to do with hitting a target: *iru* ‘shoot’, *ateru* ‘hit’, and *butukeru* ‘throw’.

- (39) a. *ya o mato ni iru*  
 arrow ACC target LOC shoot  
 ‘shoot an arrow at a target’
- b. *mato o ya de iru*  
 target ACC arrow with shoot  
 ‘shoot a target with an arrow’
- (40) a. *daatu o mato ni ateru*  
 dart ACC target LOC strike  
 ‘strike a dart into the target’
- b. *mato o daatu de ateru*  
 target ACC dart with strike  
 ‘strike the target with a dart’
- (41) a. *booru o okada ni butukeru*  
 ball ACC Okada LOC throw  
 ‘throw a ball at Okada’
- b. *okada o booru de butukeru*  
 Okada ACC ball with throw  
 ‘throw at Okada with a ball’

Here the *de* ‘with’-variant indicates that the location entity is physically impinged upon.

These may or may not count as instances of locative alternation, depending upon how one defines locative alternation. But if we include all these alternations in the category of locative alternation, it means that the *de* ‘with’-variant syntax needs to be associated with all these different types of semantics: covering a surface, filling a container, hurting one’s body part, gaining functional unity that can be undone, gaining functional unity that cannot be undone, and physically impinging upon a thing. It seems practically impossible to unify all these semantics into a single coherent notion, and even if one manages to come up with a notion that covers all these semantics, the resulting notion will be too abstract to be of any use in describing the observed linguistic facts. Rather, all this suggests that the locative

alternation is a heterogeneous phenomenon where the *de* ‘with’-variant is to be associated with various semantics, not something that can be handled by a single mechanism.

## 4 A constructional account

### 4.1 Lower-level constructions

But given that the *de* ‘with’-variant is to be associated with various semantics, how are these associations to be captured theoretically? I argue that constructions in the sense of Construction Grammar are suitable for this task.

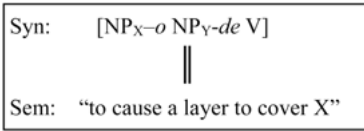
In the version of Construction Grammar being adopted here (Iwata 2008), constructions are defined as schemas in the sense of Cognitive Grammar (Langacker 2008, Taylor 2002, among others). That is, constructions are nothing other than schematic form-meaning pairings abstracted over usage events. As a schema both captures the commonalities over its instances and sanctions new instances which conform to its specifications, so does a construction. Also, I take the position that generalizations are to be captured at lower levels. So such lower-level constructions as verb-class-specific constructions or verb-specific constructions will be useful devices (See Croft 2003, 2012; Iwata 2008, 2014, and the references cited therein).

Let me illustrate by focusing upon the alternation exhibited by *nuru* ‘smear.’

- (42) a. *kabe ni penki o nuru*  
           wall on paint ACC smear  
           ‘smear paint on the wall’  
       b. *kabe o penki de nuru*  
           wall ACC paint with smear  
           ‘smear the wall with paint’

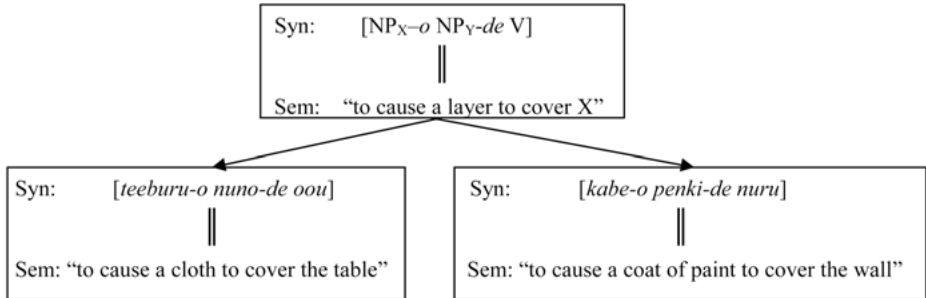
The intuition that *nuru* ‘smear’ may appear in the *de* ‘with’-variant syntax as in (43b), similarly to *oou* ‘cover’ in (43a), precisely because *nuru* ‘smear’ can be construed as semantically similar to *oou* ‘cover’ can be expressed as follows. First, we need to posit an *oou* ‘cover’-class-specific construction as represented in Figure 5.

- (43) a. *teeburu o nuno de oou*  
           table ACC cloth with cover  
           ‘cover the table with a cloth’  
       b. *kabe o penki de nuru*  
           wall ACC paint with smear  
           ‘smear the wall with paint’



**Figure 5:** *oou* ‘cover’-class-specific construction

Now both (43a) and (43b) instantiate this construction as in Figure 6.



**Figure 6:** How the *de* variant is sanctioned by the *oou* ‘cover’-class-specific construction

The *de* ‘with’-variant of *nuru* ‘smear’ is thus sanctioned.

Note that under this view of constructions, it is the whole string embedding a particular verb (e.g. *kabe o penki de nuru*), rather than a verb alone (e.g. *nuru*), that instantiates a construction. This is an automatic consequence of constructions being schemas: Schemas sanction the linguistic expression as a whole, not part of it. Whether a given verb can appear in a particular syntactic frame or not is a matter of whether *the whole string embedding the verb in that syntactic frame* can instantiate a relevant construction or not.

Also, the possibility of a given verb’s entering into the alternation is a matter of degree under this view of constructions. In a usage-based theory, newly encountered expressions are acceptable and meaningful *to the extent that* (not “if”) they can be construed as instances of a schema. Accordingly, a given *de* ‘with’-variant is judged acceptable *to the extent that* it can be construed as instantiating a relevant construction.

These two characteristics separate the proposed constructional account from any other theory that fails to take into consideration the contributions made by participant NPs and PPs.

## 4.2 The alternation is not confined to the lexicon

Exactly as the proposed constructional account maintains, the *de* ‘with’-variant is indeed judged acceptable to the extent that the verbal action described by the

phrasal expression as a whole is construable as a covering activity. First, let us compare (44) and (45).

- (44) a. *kabe ni penki o nuru*  
 wall on paint ACC smear  
 ‘smear paint on the wall’  
 b. *kabe o penki de nuru*  
 wall ACC paint with smear  
 ‘smear the wall with paint’
- (45) a. *pan ni bataa o nuru*  
 bread on butter ACC smear  
 ‘spread butter on the bread’  
 b. ?*pan o bataa de nuru*  
 bread ACC butter with smear  
 ‘spread the bread with butter’

Despite the fact that a representative instance of the locative alternation can be constructed by using *nuru* ‘smear’ as in (44), the *de* ‘with’-variant of the same verb with different locatum and location entities is judged slightly less acceptable as in (45b).<sup>4,5</sup>

This contrast is confirmed by the corpus data. When *penki* ‘paint’ is the locatum entity, both its *o*-marked occurrence (‘smear paint’) as in (46a) and its *de*-marked occurrence (‘smear with paint’) as in (46b) are attested quite frequently in the NIN-JAL-LWP for Tsukuba Web Corpus (=NLT) (223 and 66 instances, respectively).<sup>6</sup>

- (46) a. *penki o nutta ato desu*  
 paint ACC smear after COP.POL  
 ‘Someone has already smeared paint on it.’  
 b. *tobira o penki de kanzen-ni nuru-to ...*  
 door ACC paint with completely smear-and,  
 ‘smearing the door completely with paint ...’ (both from NLT)

<sup>4</sup> As a matter of fact, Okutsu (1981) judges (45b) unacceptable.

<sup>5</sup> As the glosses in (44) and (45) show, the English expressions corresponding to *penki-o nuru* and *bataa-o nuru* are *smear paint* and *spread butter*, respectively. In other words, in English two different verbs are employed to cover the range of meanings expressed. But few native speakers of Japanese would feel that there are two different verbs involved in (44) and (45).

<sup>6</sup> <http://corpus.tsukuba.ac.jp>

By contrast, when *bataa* ‘butter’ is the locatum entity, its *o*-marked occurrence (‘spread butter’) amounts to 148 instances, but I have not found a single instance of *nuru* with *bataa* ‘butter’ being *de* ‘with’-marked.

- (47) *syokupan ni bataa o nuri*  
 bread on butter ACC spread  
 ‘spread butter on the bread’ (NLT)

The results are summarized in Table 1.

**Table 1:** *penki* ‘paint’ vs. *bataa* ‘butter’

	___ <i>o nuru</i> ‘smear ___ on NP’	___ <i>de nuru</i> ‘smear NP with ___’
<i>penki</i> ‘paint’	223	66
<i>bataa</i> ‘butter’	148	0

What differentiates between paint-smearing and butter-spreading is the size of the location entity. Note that in order for the activity of *nuru* ‘smear’, which involves a back and forth movement of strokes over the surface, to count as a covering activity, a somewhat large space is necessary. A wall is large enough to be thus covered, but a single slice of bread is not. In fact, (45b) improves in the context in which the bread is exceptionally large, like a Guinness World Record competition.

- (48) *zentyou 1-meetoru-mo-aru kyodai-na-pan o*  
 as-large-as-.1-meter-wide giant bread ACC  
*hasi-kara hasi-made bataa de nut-ta*  
 edge-from edge-to butter with spread-PST  
 ‘They spread the bread, all of a meter wide, with butter’

Thus (48) is acceptable because the location entity is now large enough to be ‘covered’.

Let us next turn to *maku* ‘wind’. As already noted in 3.2, this verb may occur both in *ni* ‘into/onto’-variant and *de* ‘with’-variant frames.

- (49) a. *ude ni hootai o maku*  
 arm on bandage ACC wind  
 ‘wind a bandage around the arm’  
 b. *ude o hootai de maku*  
 arm ACC bandage with wind  
 ‘wind the arm with a bandage’

Interestingly enough, however, when the locatum entity is *ito* ‘thread’, rather than *hootai* ‘bandage’, the *de* ‘with’-variant is less acceptable, as in (50b).

- (50) a. *yubi ni ito o maku*  
 finger on thread ACC wind  
 ‘wind a thread around a finger’
- b. ??*yubi o ito de maku*  
 finger ACC thread with wind  
 ‘wind a finger with a thread’

But the *de* ‘with’-variant improves when *guruguru* ‘round and round’ is added, as in (51).

- (51) *yubi o ito de guruguru maku*  
 finger ACC thread with round.-and.-round wind  
 ‘wind a finger round and round with thread’

This is due to the different configurations the locatum comes to display. In (49b) the arm is covered with a bandage, which is extended in two dimensions. But in (50b) the finger cannot be said to be covered by a single loop of thread, as in Figure 7. It is possible, however, to cover a finger by winding thread around it repeatedly, as in Figure 8.<sup>7</sup> This is why (51) is acceptable.

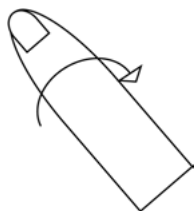


Figure 7: *yubi-o ito-de maku*

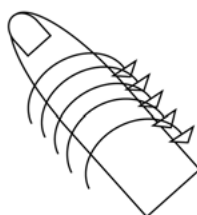


Figure 8: *yubi-o ito-de guruguru maku*

Again, these contrasts are confirmed by corpus data. The entities that are rather frequently found to occur in the *de* ‘with’-phrase of *maku* ‘wind’ in the NLT corpus are *teepu* ‘tape’, *hootai* ‘bandage’, and *taoru* ‘towel’, all of which are extended in two dimensions. *Ito* ‘thread’ is also found to occur in the *de* ‘with’-phrase of *maku* ‘wind’, but those instances are either accompanied by *guruguru* ‘round and round’ as in (52) or clearly involve the thread’s being wound again and again.

<sup>7</sup> Strictly, one’s arm and one’s finger are three-dimensional. But the surface of the arm and the surface of the finger are covered in (49b) and (51), respectively.

- (52) *akai-ito de guruguru-ni mai-te sibarimasu.*  
 red thread with round.-and.-round-COP wind-CONJCT tie  
 ‘wind (it) round and round with red thread and tie (it)’ (NLT)

**Table 2:** entities that appear in the *de*-phrase of *maku* ‘wind’

	_____ <i>de maku</i> ‘wind with _____’
<i>teepu</i> ‘tape’	66
<i>hootai</i> ‘bandage’	40
<i>taoru</i> ‘towel’	32
<i>ito</i> ‘thread’	24

All these facts confirm that it is the whole phrasal expression, rather than the verb alone, that counts.

### 4.3 Morphologically complex cases

Now one thing that apparently argues in favor of handling the locative alternation by means of a formal operation in the lexicon is *tukusu* ‘exhaust’-compounding. As already noted at the outset, Fukui, Miyagawa and Tenny (1985) observe that *maku* ‘sprinkle’ does not appear in the *de* ‘with’-variant as in (53b), but the complex verb *maki-tukusu* ‘sprinkle-exhaust’ does, as in (53c).

- (53) a. *mizu o hodoo ni maku*  
 water ACC sidewalk on sprinkle  
 ‘sprinkle water on the sidewalk’  
 b. \**hodoo o mizu de maku*  
 sidewalk ACC water with sprinkle  
 ‘sprinkle the sidewalk with water’  
 c. *hodoo o mizu de maki-tukusu*  
 sidewalk ACC water with sprinkle-exhaust  
 ‘sprinkle the sidewalk completely with water’

(Fukui, Miyagawa and Tenny 1985: 24)

They also observe that the same is true of *haru* ‘put.up’, which does not appear in the *de* ‘with’-variant as in (54b), but *hari-tukusu* ‘put.up-exhaust’ does as in (54c).

- (54) a. *kabe-ni posutaa-o haru*  
 wall on poster-ACC put.up  
 ‘put up posters on the wall’



- b. *\*kabe o posutaa de haru*  
 wall ACC poster with put.up  
 ‘put up the wall with posters’
- c. *kabe o posutaa de hari-tukusu*  
 wall ACC poster with put.up-exhaust  
 ‘completely put up the wall with posters’

(Fukui, Miyagawa and Tenny, 1985: 24)

Based on these facts, Fukui, Miyagawa and Tenny (1985: 24) claim that “the number of basic *nuru/smear* verbs in Japanese is small, but the number increases significantly when we add morphological endings to verbs which are not of the *nuru/smear* type.”

According to the exposition by Fukui, Miyagawa and Tenny (1985), *tukusu* ‘exhaust’-compounding seems to be a rather formal operation that turns non-alternating verbs into alternating verbs quite productively. Thus *tukusu* ‘exhaust’-compounding is reminiscent of the German prefix *be-*, which is held to turn non-alternating verbs into alternating ones (Brinkmann 1997, Michaelis and Ruppenhofer 2001).

The actual facts are not exactly as Fukui, Miyagawa and Tenny (1985) claim them to be, however. First and foremost, the number does not “increase significantly” with the help of *tukusu* ‘exhaust’-compounding. Note that both *sosogu* ‘pour’ and *tukeru* ‘attach’ place a very similar restriction on the locatum argument to that of *maku* ‘sprinkle’. It follows then that *sosogu* ‘pour’ and *tukeru* ‘attach’ should receive the same LCS representation as *maku* ‘sprinkle’, rather than as *oku* ‘put’. But *sosogu* ‘pour’ and *tukeru* ‘attach’ cannot appear in the *de* ‘with’-variant even when they are compounded by *-tukusu* ‘exhaust’, contrary to the prediction of Fukui, Miyagawa and Tenny’s (1985) theory.

- (55) a. *koppu ni mizu o sosogu*  
 glass into water ACC pour  
 ‘pour water into the glass’
- b. *\*koppu o mizu de sosogu*  
 glass ACC water with pour  
 ‘pour the glass with water’
- c. *?\*koppu o mizu de sosogi-tukusu*  
 glass ACC water with pour-exhaust  
 ‘pour the glass completely with water’
- (56) a. *kabe ni penki o tukeru*  
 wall on paint ACC attach  
 ‘attach paint to the wall’

- b. *\*kabe o penki de tuku*  
 wall ACC paint with attach  
 'attach the wall with paint'
- c. *\*kabe o penki de tuku-tuku*  
 wall ACC paint with attach-exhaust  
 'attach the wall completely with paint'

Next, *huki-tuku* 'spray', *tumi-ageru* 'pile', *tume-komu* 'cram', and *tumu* 'load', which are counterparts for English locative alternation verbs, nevertheless do not alternate.

- (57) a. *penki o kabe ni huki-tuku*  
 paint ACC wall on spray  
 'spray paint on the wall'
- b. *\*kabe o penki de huki-tuku*  
 wall ACC paint with spray  
 'spray the wall with paint'
- (58) a. *rooka ni hako o tumi-ageru*  
 corridor in box ACC pile  
 'pile boxes in the corridor'
- b. *\*rooka-o hako-de tumi-ageru*  
 corridor-ACC box with pile  
 'pile the corridor with boxes'
- (59) a. *hon o hon-dana ni tume-komu*  
 book ACC bookshelf into cram  
 'cram books into the bookshelf'
- b. *\*hon-dana o hon de tume-komu*  
 bookshelf ACC book with cram  
 'cram the bookshelf with books'
- (60) a. *hosikusa o niguruma ni tumu*  
 hay ACC wagon onto load  
 'load hay onto the wagon'
- b. *\*niguruma o hosikusa de tumu*  
 wagon ACC hay with load  
 'load the wagon with hay'

Since all these verbs place a selectional restriction on the locatum argument, they should turn into alternating verbs via *-tukusu* ‘exhaust’ compounding. None of these verbs behaves that way, however.<sup>8</sup>

- (61) a. *?\*kabe o penki de huki-tuke-tukusu*  
 wall ACC paint with spray-exhaust  
 ‘spray the wall completely with paint’
- b. *?\*rooka o hako de tumi-age-tukusu*  
 corridor ACC box with pile-exhaust  
 ‘pile the corridor completely with boxes’
- c. *?\*hon-dana o hon de tume-komi-tukusu*  
 bookshelf ACC book with cram-exhaust  
 ‘cram the bookshelf completely with books’
- d. *?\*niguruma o hosikusa de tumi-tukusu*  
 wagon ACC hay with load-exhaust  
 ‘load the wagon completely with hay’

Thus *-tukusu* ‘exhaust’ compounding is not as powerful as Fukui, Miyagawa and Tenny’s (1985) exposition would have us believe.<sup>9</sup>

Rather, what is crucial is whether the compound verb expresses the ‘cover’ semantics or not. Like *nuru* ‘smear’, *maku* ‘sprinkle’ involves a back and forth movement of a liquid over a location, so that the liquid reaches an area of some width. When this action is exhaustively done to the sidewalk, the sidewalk ends up being covered, as described in Figure 9.

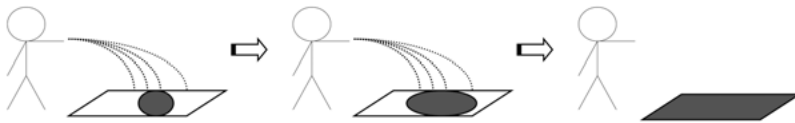


Figure 9: *maku* ‘sprinkle’ event

Thus it is no wonder that *maki-tukusu* ‘sprinkle-exhaust’ may appear in the *de* ‘with’-variant syntax.

<sup>8</sup> Fukui, Miyagawa and Tenny (1985) judge (61d) acceptable, but almost all of my informants find it unacceptable. In fact, Fukui, Miyagawa and Tenny (1985) concede that “some native speakers of Japanese might feel that [(61d)] is not perfectly acceptable.” (p. 12)

<sup>9</sup> Fukui, Miyagawa and Tenny (1985) cite *maku* ‘sprinkle’ and *haru* ‘put.up’ as examples that can be turned into alternating verbs via *-tukusu* ‘exhaust’ compounding. But *maki-tukusu* ‘sprinkle-exhaust’ and *hari-tukusu* ‘put.up-exhaust’ are virtually the only instances that can acceptably appear in the *de* ‘with’-variant. Obviously, two is far from warranting the characterization “significant increase.”

But things are different with *sosogu* ‘pour’ and *tukeru* ‘attach’, neither of which inherently involves a back and forth movement of substance over a location. So even if the action is exhaustively done, the location does not end up being covered.<sup>10</sup> Consequently, neither of these two verbs may appear in the *de* ‘with’-variant syntax even when they are compounded with *-tukusu* ‘exhaust’.

Similar things can be said of *huki-tukeru* ‘spray’, *tumi-ageru* ‘pile’, *tume-komu* ‘cram’, and *tumu* ‘load’, none of which can acceptably appear in the *de* ‘with’-variant syntax via *-tukusu* ‘exhaust’ compounding. Note that in the acceptable cases of (53c) and (54c) a surface is covered, whereas in the unacceptable cases in (61) this is not the case. This seems to indicate that *-tukusu* ‘exhaust’ compounding is compatible with the ‘cover’ semantics but not with the ‘fill’ semantics. Anyway, the facts are clear: Not every verb can appear in the *de* ‘with’-variant by being compounded with *-tukusu* ‘exhaust’.

Conversely, not every compounding can ensure the occurrence of the complex verb in the *de* ‘with’-variant syntax. Thus when *nuru* ‘smear’, which alternates, is compounded with *-tukeru* ‘attach’, the resulting *nuri-tukeru* ‘smear-attach’ no longer alternates.

- (62) a. *Zyon wa kabe ni penki o nuri-tuke-ta*  
 John TOP wall on paint ACC smear-attach-PST  
 ‘John put a smear of paint on the wall’  
 b. \**Zyon wa kabe o penki de nuri-tuke-ta*  
 John TOP wall ACC paint with smear-attach-PST  
 ‘John attached the wall with a smear of paint’

This is because with *-tukeru* ‘attach’, the focus is on the substance being attached to a location. *Nuri-tukeru* ‘smear-attach’, therefore, does not entail that the wall ends up being covered.

The following observation by Matsumoto (2000) can be accounted for along the same lines. According to Matsumoto (2000), *haru* ‘put.up’ does not alternate, but when it combines with *-te iku* (-CONJ go) ‘go on V-ing’ to form a participial complex motion predicate, the *de* ‘with’-variant becomes acceptable.

- (63) a. *Zyon wa kabe ni posutaa o hatte-it-ta*  
 John TOP wall on poster ACC put.up go-PST  
 ‘John went on putting up posters on the wall’  
 b. *Zyon wa kabe o posutaa de hatte-it-ta*  
 John TOP wall ACC poster with put.up go-PST  
 ‘John was covering the wall with posters’

(Matsumoto 2000: 203, Kishimoto 2001: 66)

<sup>10</sup> With *sosogu* ‘pour,’ logically a three-dimensional container could end up being filled. But *-tukusu* ‘exhaust’ compounding does not seem to be compatible with the ‘fill’ semantics, as will be noted immediately below.

Again, this is not surprising when one carefully looks at the expressed meaning. According to Matsumoto (1996: 259), with participial complex motion predicates of the form *V-te iku* (V-CONJ go) ‘go on V-ing’, the participle may bear only four kinds of relation to a verb of motion, i.e. resultative, progressive, iterative, and perfect. Clearly, *hatte-iku* in (63) is an instance of the iterative reading: putting up a poster on the wall is iterated as the motion proceeds. Since many posters come to occupy the wall, the wall ends up being covered. Thus the acceptability of (63b) is again due to the ‘cover’ semantics involved.

Now it might be argued that even though the number does not “increase significantly,” the fact still remains that *-tukusu* ‘exhaust’ compounding indicates the need to resort to a complex verb formation in the lexicon. This lexical rule thesis might go as follows: *Maku* ‘sprinkle’ is a verb of putting and therefore cannot appear in the *de* ‘with’-variant syntax, but *maki-tukusu* ‘sprinkle-exhaust’ is now a verb of covering and therefore can assume the *de* ‘with’-variant syntax.

But according to this lexical account, *maki-tukusu* ‘sprinkle-exhaust’ should appear in the *de* ‘with’-variant syntax alone, not in the *ni* ‘into/onto’-variant syntax. In actuality, however, *maki-tukusu* ‘sprinkle-exhaust’ may appear either in the *ni* ‘into/onto’-variant as in (64a) or in the *de* ‘with’-variant as in (64b).

- (64) a. *Zyon wa mizu o hodoo ni maki-tukusi-ta*  
 John TOP water ACC sidewalk LOC sprinkle-exhaust-PST  
 ‘John sprinkled water completely on the sidewalk’
- b. *Zyon wa hodoo o mizu de maki-tukusi-ta*  
 John TOP sidewalk ACC water with sprinkle-exhaust-PST  
 ‘John sprinkled the sidewalk completely with water’

This is because *maki-tukusu* simply means “to sprinkle-exhaust,” while the entity that is exhausted is lexically indeterminate.

Rather, *-tukusu* ‘exhaust’ targets the amount/extent of the entity denoted by the *o*-marked NP. This can be confirmed by attaching *zenbu* ‘whole’ and seeing what entity is exhausted.

- (65) a. *Zyon wa mizu o zenbu hodoo ni maki-tukusi-ta*  
 John TOP water ACC whole sidewalk on sprinkle-exhaust-PST  
 ‘John sprinkled the whole water completely on the sidewalk’
- b. *Zyon wa hodoo o zenbu mizu de maki-tukusi-ta*  
 John TOP sidewalk ACC whole water with sprinkle-exhaust-PST  
 ‘John sprinkled the whole sidewalk completely with water’

In (65a) the whole water is used up, while in (65b) the whole sidewalk is covered.<sup>11</sup>

Given that a *-tukusu* ‘exhaust’ compounded verb comes to express the meaning of ‘cover’ only when it occurs with an *o*-marked location entity, then, its occurrence in the *de* ‘with’-variant syntax cannot be attributed to a process localized in the lexicon. Rather, the event described by the sentence as a whole is to be assessed as to whether it instantiates a covering event or not, exactly as the proposed constructional account maintains. Thus why *maki-tukusu* ‘sprinkle-exhaust’ may appear in the *de* ‘with’-variant syntax is because the phrasal expression *hodoo o mizu de maki-tukusu* ‘sprinkle the sidewalk completely with water’, not the complex verb *maki-tukusu* ‘sprinkle-exhaust’ alone, instantiates the *oou* ‘cover’-class-specific construction, as indicated in Figure 10.

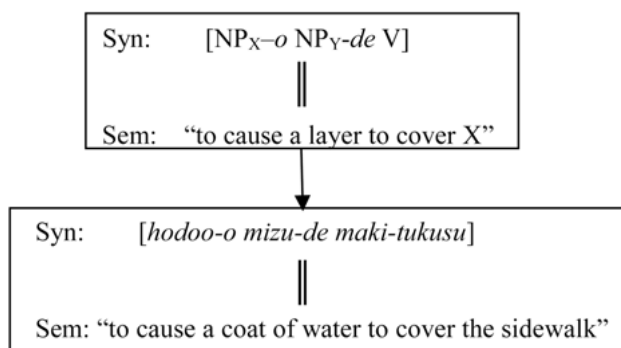


Figure 10: *de*-variant of *maki-tukusu*

Thus while the facts about *-tukusu* ‘exhaust’ compounding might appear to argue in favor of a lexical account, actually *-tukusu* ‘exhaust’ compound verbs can be accounted for in entirely the same way as simple verbs in the proposed constructional account.

<sup>11</sup> It might be argued that these interpretations are possible because *zenbu* ‘whole’ is adjacent to the *o*-marked NP in (65). But even if *zenbu* ‘whole’ is not adjacent to the *o*-marked NP, the distinction between the two readings still seems clear.

- (i) a. *Zyon wa mizu o hodoo ni zenbu maki-tukusi-ta*  
       John TOP water ACC sidewalk on whole sprinkle-exhaust-PST  
       ‘John sprinkled the whole water completely on the sidewalk’  
    b. *Zyon wa hodoo o mizu de zenbu maki-tukusi-ta*  
       John TOP sidewalk ACC water with whole sprinkle-exhaust-PST  
       ‘John sprinkled the whole sidewalk completely with water’

## 5 Some further issues

### 5.1 Why does *nuru* ‘smear’ alternate even when the location is not covered?

As seen above, the *de* ‘with’-variant may be sanctioned by other constructions than the *oou* ‘cover’-class-specific construction and the *ippai-ni suru* ‘make full’-class-specific construction. Thus the *de* ‘with’-variant of *sasu* ‘prick’ in (66b) is acceptable despite the fact that Hanako’s hand is not strictly covered, because it is sanctioned by a construction which likely specifies ‘hurt’ or ‘damage’ semantics.

- (66) a. *Hanako-no-te ni hari o sasū*  
 Hanako-GEN hand in needle ACC stick  
 ‘stick a needle in Hanako’s hand’
- b. *Hanako-no-te o hari de sasū*  
 Hanako-GEN hand ACC needle with stick  
 ‘stick Hanako’s hand with a needle’

(Fukui, Miyagawa and Tenny, 1985: 5–6)

But given that the *de* ‘with’-variant of *sasu* ‘prick’ can be thus sanctioned, isn’t it also possible, at least in principle, for verbs like *nuru* ‘smear’ to be sanctioned by constructions other than the *oou* ‘cover’-class-specific construction as well?

The answer is in the affirmative, of course. The discussion in the previous section might create the impression that the *de* ‘with’-variants of different verbs are to be handled by different constructions. Actually, if the *de* ‘with’-variants of one and the same verb exhibit different interpretations, those interpretations are to be handled by different constructions. Let me illustrate this point by having a look at *nuru* ‘smear.’

We have seen above that (67b) is somewhat degraded because a piece of bread is not large enough to be ‘covered.’ In other words, (67b) cannot fully instantiate the *oou* ‘cover’-class-specific construction.

- (67) a. *pan ni bataa o nuru*  
 bread on butter ACC smear  
 ‘spread butter on the bread’
- b. *?pan o bataa de nuru*  
 bread ACC butter with smear  
 ‘spread the bread with butter’

Now Kimi Akita (personal communication) challenges this thesis, by citing the following “counter-examples,” where the location entities (i.e. bread and one’s finger nail) are not very large.

- (68) a. *syokupan o kusat-ta bataa de nuru*  
 bread ACC rotten butter with smear  
 ‘smear the bread with rotten butter’
- b. *koyubi-no-tume o makka-na manikyua de nuru*  
 little finger-GEN nail ACC red nail polish with smear  
 ‘smear the little finger’s nail with red nail polish’

According to Akita, these examples instead support the “affectedness” thesis, in that the location entities are clearly affected.

Indeed, the location entities are not very large in these sentences, but this is simply because these *de* ‘with’-variants are sanctioned by constructions other than the *oou* ‘cover’-class-specific construction. In (68a) the bread becomes non-edible, so it is damaged or spoiled; in (68b) the fingernail becomes more attractive-looking, so it undergoes an aesthetic change. Accordingly, these *de* ‘with’-variants are to be sanctioned by respective, appropriate constructions, which do not require that the location be covered.

At the same time, note that cases like (68), where the direct object entity is visibly affected, are exceptional, rather than a rule, for the *de* ‘with’-variants of *nuru* ‘smear’. Thus when presented with *kabe o penki de nuru* ‘smear the wall with paint’, few native speakers of Japanese would feel that the wall is affected in the same way as in (68a) or (68b).

Also, as the act of smearing could be done for a variety of purposes like spoiling the food, enhancing the aesthetic value, etc. (See Dowty 1991: 591 for a relevant discussion), sentences like (68) could be constructed with some ingenuity. But this is not necessarily the case for acts other than smearing. Thus we have already seen that the following *de* ‘with’-variants can be analyzed in terms of the ‘cover’ semantics.

- (69) a. *moti o kinako de mabusu*  
 rice cake ACC soybean flour with coat  
 ‘coat the rice cake with soybean flour’
- b. *doresu o hooseki de tiribameru*  
 dress ACC jewel with inlay  
 ‘inlay the dress with jewels’

It seems far-fetched to think of examples corresponding to (68a) and (68b) for these verbs.

In short, just because some *de* ‘with’-variants do not evince the ‘cover’ semantics does not mean that the *de* ‘with’-variant cannot be analyzed by means of the *oou* ‘cover’-class-specific construction. When the *de* ‘with’-variant can be characterized in terms of ‘cover’ semantics, the location entity does not seem to be affected, at



least not in the ordinary sense of the term. On the other hand, when the *de* ‘with’-variant does not seem to be characterizable in terms of ‘cover’ semantics, the location entity is visibly affected. The natural conclusion to be drawn is, therefore, that the apparent counter-examples to the ‘cover’ semantics thesis are to be handled by constructions other than the *oou* ‘cover’-class-specific construction.

## 5.2 Why does *kabuseru* (‘place’) not alternate?

There is still another apparent problem for the ‘cover’ semantics thesis. Kimi Akita (personal communication) questions why *kabuseru*, which is often translated as “cover”, should appear in the *ni* ‘into/onto’-variant but not in the *de* ‘with’-variant, by citing the following examples.

- (70) a. *kodomo ni huton o kabuseru*  
 child on bedclothes ACC place  
 ‘place bedclothes on the child’
- b. \**kodomo o huton de kabuseru*  
 child ACC bedclothes with place  
 ‘cover the child with bedclothes’

Conceivably, this is because *kabuseru* ‘place’ is fundamentally a verb of putting but looks similar to *oou* ‘cover’ due to the selectional restrictions imposed on the locatum and location entities. Basically, *kabuseru* means to place a concave entity on a convex entity, as described in Figure 11.

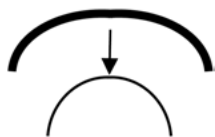


Figure 11: *kabuseru* ‘place’ configuration

(71) is among the examples that illustrate these selectional restrictions well.

- (71) *atama ni boosi o kabuseru*  
 head on hat ACC place  
 ‘place a hat on one’s head’

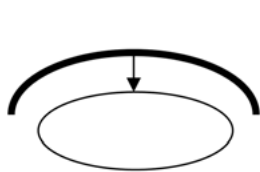
The concave entity thus encloses the top area of the convex entity, a configuration not unlike covering.

Nevertheless, the specific top portion of a convex entity is not a surface that can be covered per se. That is, the configuration of *kabuseru* ‘place’ does not count as covering. Accordingly, there is a conflict between the verb meaning and the constructional meaning in (70b): The verb *kabuseru* ‘place’ requires a convex entity, but the construction requires a surface, which is basically a flat entity. Hence the unacceptability.

But this does not mean that *kabuseru* ‘place’ never appears in the *de* ‘with’-variant. Sentences like (72) are attested in the NLT corpus.

- (72) a. *sono-ato 3-syoku-no dookei-syoku-no garasu de kabuse-masu*  
           that-after 3-color-GEN similar-color-GEN glass with place-POL  
           ‘After that, place a piece of glass with three similar colors over it (=bead)’  
       b. *maeba o seramikku de kirei-ni kabuseru*  
           front tooth ACC ceramic with beautifully place  
           ‘put a ceramic covering on a front tooth beautifully’

In (72a) a thin layer of colored glass is put over a flattened bead, so the bead may be construed not only as a convex entity but also as being covered with the glass. In (72b) a layer of ceramic is placed on a front tooth, which is also of a shape that can be both convex and somewhat flat, as shown in Figure 12.



(a) cover the bead



(b) cover the tooth

Figure 12: a convex entity being covered

Thus even *kabuseru* ‘place’ may be found in the *de* ‘with’-variant syntax when the location entity can be construed as being covered. The behavior of *kabuseru* ‘place’ confirms, rather than disconfirms, the ‘cover’ semantics thesis.

### 5.3 Why does *ippai-ni suru* ‘(make full)’ alternate?

The majority of Japanese verbs entering into locative alternation can be accounted for by claiming that the *de* ‘with’-variant can be sanctioned either by the *ouo* ‘cover’-class-specific construction or by the *ippai-ni suru* ‘make full’-class-specific construction. So the locative alternation in Japanese has so far been shown to be

entirely parallel to that in English, at least as far as how the *de* ‘with’-variant is to be sanctioned.

But there is an important difference. In 3.2, we have seen that *ippai-ni suru* ‘make full’ may appear in the *de* ‘with’-variant syntax. This might create the impression that *ippai-ni suru* ‘make full’ is exactly like English *fill*. But *ippai-ni suru* ‘make full’ may appear in the *ni* ‘into/onto’-variant frame as well.

- (73) a. *gurasu ni mizu o ippai-ni suru*  
           glass into water ACC full make  
           ‘fill water into the glass’
- b. *gurasu o mizu de ippai-ni suru*  
           glass ACC water with full make  
           ‘fill the glass with water’

Note that what appears to be a perfect parallel between English and Japanese breaks down here. In English, both *cover* and *fill* appear only in the location-as-object variant.

- (74) a. \**He covered a cloth over the table.*  
       b. *He covered the table with a cloth.*
- (75) a. \**Bill filled water into the tank.*  
       b. *Bill filled the tank (with water).*

However, as we have seen in (73), *ippai-ni suru* ‘make full’, unlike English *fill*, does alternate. In contrast, the Japanese counterpart for *cover*, i.e. *oou*, fails to alternate, parallel to English *cover*.

- (76) a. \**nuno o teeburu ni oou*  
           cloth ACC table on cover  
           ‘cover a cloth over the table’
- b. *teeburu o nuno de oou*  
           table ACC cloth with cover  
           ‘cover the table with a cloth’

It might be argued that this is an idiosyncrasy on the part of *ippai-ni suru*. But this does not seem likely, because *mitasu* ‘fill’, another counterpart for English *fill*, also alternates.

- (77) a. *gurasu ni mizu o mitasu*  
 glass into water ACC fill  
 ‘fill water into the glass’
- b. *gurasu o mizu de mitasu*  
 glass ACC water with fill  
 ‘fill the glass with water’

Thus the incongruity between English *fill* and its Japanese counterparts does not seem to be a coincidence.

A solution to this apparent puzzle comes from examining the morphologically related words. In English, *fill* has a cognate adjective *full*, so that *fill* can be decomposed into “to cause something to become ‘full’.” On the other hand, Japanese has *ippai-ni naru*, which is an intransitive counterpart of *ippai-ni suru*. So the transitive-intransitive pair *ippai-ni suru* and *ippai-ni naru* can now be analyzed as “to cause something to become ‘ippai’” and “to become ‘ippai’,” respectively. Accordingly, the difference between English *fill* and Japanese *ippai-ni suru* can be ultimately traced back to the contrast between English *full* and Japanese *ippai*.

Remarkably, while *full* can be predicated of a container but not a liquid as in (78), *ippai-ni naru* can be predicated of both as in (79).

- (78) a. \**The water is full (in the glass).*  
 b. *The glass is full (of water).*
- (79) a. *gurasu ga ippai-ni naru.*  
 glass NOM full become  
 ‘The glass became full.’
- b. *mizu ga ippai-ni naru*  
 water NOM full become  
 ‘The water became full.’

This indicates that the notion of completely occupying the inside of a container is conceptualized differently between English and Japanese. In English, being full is exclusively a property of a container. But in Japanese, the corresponding notion is attributable not only to a container but also to a liquid going into the container. Hence the difference between (78) and (79). Since this difference as to predication carries over to the causatives *fill* and *ippai-ni suru*, *fill* means “to cause a container to become ‘full’,” whereas *ippai-ni suru* is “to cause a container to become ‘ippai’” or “to cause a liquid to become ‘ippai’.”

Essentially the same is true of *mitasu*, whose intransitive counterpart *mitiru* can be predicated either of a liquid or of a container.

- (80) a. *gurasu ga miti-te -iru.*  
 glass NOM fill-CONJCT be  
 ‘The glass is full.’
- b. *mizu ga miti-te -iru*  
 water NOM fill-CONJCT be  
 ‘The water is full.’

Again, therefore, it is no wonder that *mitasu* ‘fill’ can alternate between the two variants as in (77).

## 5.4 Summary

Now the Japanese verbs entering into the locative alternation which have been discussed in this chapter are summarized in Table 3.

**Table 3:** Japanese alternating verbs discussed in this chapter

Meaning of <i>de</i> ‘with’-variant	Section Discussed
Cover a surface	<i>nuru</i> ‘smear’; <i>haru</i> ‘stretch’; <i>maku</i> ‘wind’; <i>tiribameru</i> ‘inlay’; <i>mabusu</i> ‘coat’ <i>maki-tukusu</i> ‘sprinkle-exhaust’; <i>hari-tukusu</i> ‘put.up-exhaust’; <i>hatte-iku</i> ‘go on V-ing’
Fill a container	<i>ippai-ni suru</i> ‘make – full’, <i>tumeru</i> ‘stuff’, <i>umeru</i> ‘bury’ <i>mitasu</i> ‘fill’
Arrange vertically	<i>moritukeru</i> ‘dish up’, <i>yamamori-ni suru</i> ‘heap up’, <i>yamazumi-ni suru</i> ‘pile up’
Hurt one’s body part	<i>sasu</i> ‘stick’
Gain functional unity that can be undone	<i>kukuru</i> ‘tie up’; <i>sibaru</i> ‘bind’; <i>tomeru</i> ‘fasten’
Gain functional unity that cannot be undone	<i>aeru</i> ‘dress’; <i>karameru</i> ‘entwine’
Physically impinge upon	<i>iru</i> ‘shoot’; <i>ateru</i> ‘hit’; <i>butukeru</i> ‘throw’
Cause an aesthetic change	<i>nuru</i> ‘smear’

The verbs are grouped according to how the *de* ‘with’-variant can be semantically characterized and/or whether the verb is complex or simple.<sup>12</sup>

<sup>12</sup> There are still several alternating verbs that have not been discussed in this chapter. See Iwata (2008) for discussion of these verbs.

## 6 Conclusion

It has been demonstrated (1) that no single rule or single notion can properly account for the locative alternation, and (2) that the locative alternation is not to be accounted for by means of a strictly lexical process, exactly as stated at the outset.

As for the first point, what is crucial is that the *de* ‘with’-variant expresses a covering event or a filling event (for the core cases, at least). The form-meaning correlations in question can be captured by means of such lower-level constructions as the *oou* ‘cover’-class-specific construction or the *ippai-ni suru* ‘make full’-class-specific construction. As the proposed account attempts to capture generalizations at more concrete levels than previous analyses, the number of constructions needed will inevitably increase, particularly if we are to accommodate the locative alternations that cannot be handled in terms of the ‘cover’ semantics or ‘fill’ semantics. Yet, this seems to be the right direction.

As for the second point, it is not a verb alone (e.g. *nuru*) but the whole string embedding a particular verb (e.g. *kabe o penki de nuru*) that is sanctioned by a relevant construction. This means that the possibility of alternation is not fully determined by the verb alone. Accordingly, the locative alternation is no longer a strictly lexical phenomenon.

Additionally, there is no need to resort to purely grammatical devices that convert one variant into the other. After all, what is crucial is the compatibility between the verb meaning and the two constructions. Even the fact that *-tukusu* ‘exhaust’ compounding apparently turns non-alternating verbs into alternating ones can be accounted for by closely examining the compatibility between the verb meaning and the semantics of *-tukusu* ‘exhaust’.

Note that this view of the locative alternation offers an answer to the question of why the locative alternation is observed across many different languages. Conceivably, the act of putting something onto something else, on the one hand, and the acts of covering or filling something with something else, on the other, are so fundamental to human activities that virtually every language needs verbs of putting and verbs of covering or filling. Now it is virtually unavoidable that among those fundamental acts are acts that involve moving a large amount of substance and which therefore can be construed either as a putting-type action or as a covering/filling-type action. Thus the locative alternation ultimately arises from the need to verbalize actions fundamental to human activities, not from a grammatical function-changing operation.

## Acknowledgments

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Masayoshi Shibatani

## 8 Nominalization

I took the one less traveled by,  
And that has made all the difference.

(Robert Frost, “The Road Not Taken”)

### 1 Introduction

Studies on nominalization, in both Western and Eastern grammatical traditions, have largely concentrated on lexical nominalizations, neglecting grammatical nominalizations, despite their theoretical importance and far-reaching implications to the descriptive practice.<sup>1</sup> This imbalance is due to the fact that while lexical nominalizations (e.g. English *sing-er*) typically involve distinct morphology and their lexical status as nouns is relatively clear-cut, grammatical nominalizations (e.g. [I know] *that John recklessly shoots trespassers*; [I saw] *John shoot trespassers*; *John’s recklessly shooting trespassers* [angered the entire community]; *To shoot trespassers* [is unacceptable]) vary considerably in form, some of which displaying structural properties similar to clauses, and their nominal status is less fully realized compared to lexical nominalizations (e.g. *a/the shooting* [of trespassers]; *those terrible shootings* [of trespassers], but not *\*a/\*the shooting trespassers* [is unacceptable]).<sup>2</sup>

The Japanese grammatical tradition is no exception to this general trend. In the context of Japanese there have been two historical developments that have contributed to the failure to properly recognize grammatical nominalizations and their roles in grammar. One is a terminological issue, which nonetheless has had a profound effect on the thinking of Japanese grammarians. One of the major functions of grammatical nominalizations is that of modifying a noun. Because of this, the monk-scholar Tōjō Gimon (1785–1843) named a nominalized verbal form *Rentaigen*<sup>3</sup> (adnominal word). This term has gained wide currency in the name of *Rentaikei* (adnominal form), used today in the paradigms of verb conjugation, where the nominalized form is recognized as a conjugated verbal form along with finite (*Shūshikei*) and other forms. The term *Rentaikei* and placing *Rentai* forms in the verb paradigm have led many grammarians to believe that these forms in both Classical<sup>4</sup> and

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<sup>1</sup> This chapter is a vastly expanded version of an earlier paper, which will appear as Shibatani (2018a). This version contains a shorter description of lexical nominalizations and several new sections and subsections on grammatical nominalizations, which are the main topic of this version.

<sup>2</sup> See Lees (1965) for early, but still the most comprehensive treatment of English nominalizations.

<sup>3</sup> Japanese grammatical terms all have an initial letter capitalized in this article.

<sup>4</sup> Pre-Modern forms of Japanese, such as Old Japanese, Early and Late Middle Japanese, are collectively referred to as Classical Japanese in this chapter.

Modern Japanese are simply conjugated forms of verbs associated with the function of noun modification rather than distinct grammatical nominalization structures with different usage patterns, one of which is modification of a noun.

The other confounding issue has to do with a formal distinction between a finite verb form and its nominalized counterpart. In Old Japanese, there was a formal distinction for many verbs between a finite verb form (*Shūshikei*) and its nominalized counterpart labeled as *Rentaigen* by Tōjō. These two forms, however, began to merge in the eighth century and the merger of the two was largely completed by the middle of the sixteenth century, when nominalized structures supplanted finite sentences. This process, known as insubordination/desubordination in the current literature, obliterated the historical formal distinction between *Shūshikei*, e.g. *ot-u* ‘fall.PRS’, and *Rentaikai* forms, e.g. *otu-ru* ‘falling’, resulting in single modern forms based on the latter, e.g. *oti-ru* ‘fall-PRS/falling’. This loss of the formal distinction between finite and nominalized forms of verbs has led many grammarians to believe that grammatical nominalizations are just regular clauses, rather than independent structures or constructions with functions and syntactic properties distinct from those of clauses and sentences.

The two issues touched on here are, of course, related. The lack of formal distinction between finite verb forms and their nominalized counterparts in Modern Japanese and maintaining the label for the latter suggesting a modification function have had a profound effect on generations of Japanese grammarians. Had Tōjō given a more neutral term to what we consider to be grammatical nominalizations, such as *Juntaigen* (quasi-nominal), the term coined by YAMADA Yoshio (see below), and had grammarians paid more attention to grammatical functions, both semantic and syntactic, than just to formal appearances of linguistic structures, which may vary over time and from one language to another, Japanese grammar would have had a countenance quite different from what it is purported to be.

This paper is organized as follows. After a brief introduction to the process of nominalization in the next section, where nominalization is defined as a metonymic process of deriving new nominal expressions, section 3 discusses lexical nominalizations as a way to set the stage for the discussions of grammatical nominalizations, the main concerns of this paper. This section first sets the record straight that nominalization applies to nouns as well, contrary to the received wisdom on the possible inputs to this process, and then delineates the range of concepts that derived nominalizations are associated with via metonymic extensions. Section 4 starts a long discussion of grammatical nominalizations. Verbal-based nominalizations are discussed in section 4.2 beginning with a critical appraisal of the seminal study on this topic by Yamada (1908), followed by a discussion on event nominalizations (section 4.2.1) and on argument nominalizations (section 4.2.2). Section 4.2.3 discusses two major uses of grammatical nominalizations, namely an NP-use and a modification-use. Major claims advanced in these sections are that there are nothing like relative clauses apart from these uses of nominalizations. So-called restrictive

relative clauses are a modification-use of argument nominalizations, and so-called internally-headed relative clauses are event nominalizations in NP-use. These claims lead to the view that so-called relative clauses are not really clauses, let alone sentences. Section 4.2.4 clarifies the differences among nominalizations, clauses, and sentences in terms of the different functions they play. Section 4.2.5 discusses the role of so-called *Juntaijoshi* (nominalization particle). Contrary to the wide-held belief that the *Juntaijoshi no* is a nominalizing particle or nominalizer, we claim that it is actually a marker of the NP-use of nominalizations and that nominalization itself obtains independently from the *Juntaijoshi*.

Section 4.3 argues for nominal-based nominalizations and reanalyzes so-called genitive/possessive constructions as a modification-use of N-based nominalizations, marked by the so-called genitive particle *no* in central dialects. Section 5 discusses the historical development of *Juntaijoshi* from the so-called genitive particle, which we reanalyze as a nominalizer for N-based nominalization. Data from peripheral Japanese dialects are drawn in support of the radical proposal for reanalyzing so-called possessive constructions as a modification-use of N-based nominalizations, just as so-called relative clauses are reanalyzed as a modification-use of V-based argument nominalizations in earlier sections. Sections 6 and 7 take stock of our proposals and analyses by re-examining two popular approaches to related phenomena, namely so-called *ga/no* conversion and the characterization of two types of noun modification in terms of the *Uchi no kankei* (internal relation) and *Soto no kankei* (external relation) by TERAMURA Hideo. It is shown that the relevant phenomena go far beyond the range of the observations and analyses offered in these past efforts. It is shown that the *no*-marking of noun modifiers goes well beyond the realm of *ga/no* conversion and that our distinction between restrictive modification and identifying modification by both V-based and N-based nominalizations cuts across different types of modification constructions.

## 2 What is nominalization?

Nominalization is a *metonymic process* that yields constructions, including both words and phrasal units, associated with a denotation comprised of substantive or entity concepts that are metonymically evoked by the nominalization structures, such as events, facts, propositions, and resultant products (*event nominalizations*), and event participants (*argument nominalizations*) or other concepts closely associated with the base forms. As products, nominalizations are like nouns by virtue of their association with an **entity-concept** denotation, a property that provides a basis for the referential function of a noun phrase headed by such nominalizations.<sup>5</sup> Verbs and

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<sup>5</sup> *Denotation* refers to the relationship between a linguistic form and concepts, both entity- and relational-concepts, connected with it, while *reference* is the denotation-mediated relationship between a nominal linguistic form and a real (or imaginary) world entity.

verb phrases, on the other hand, are associated with **relational** concepts (time-stable or transient properties **pertaining to an entity**) and play a predication function in a clause by ascribing a relational concept to the referent of a subject noun phrase. They differ crucially from nouns and nominalizations in not denoting things and thing-like entity-concepts and thereby in being unable to play a referential function.

A single metonymic expression may denote a variety of entity concepts that are closely associated with the concepts denoted by the original words or larger structures, and it is the speech context that determines and selects the denotation most relevant to the context per Gricean maxims of conversation, one of which (the Maxim of Relevance) requires speakers to be contextually relevant at the time of the utterance. For example, *the United States* may metonymically denote a variety of entities closely associated with the country by this name, but only a contextually relevant interpretation would be intended by the speaker and would be chosen by the hearer – e.g. the sitting US president in *the United States decided to attack the Islamic State's forces inside Syria*, or a US women's soccer team in *the United States defeated China 1–0 to advance to the semifinals of the 2015 FIFA Women's World Cup*. Likewise, the lexical nominalization *half-pounder*, based on the noun *half-pound* and is used in an expression like *Give me a half-pounder*, may denote a hamburger in a fast-food restaurant, or a can of tobacco in a smoke shop. While many lexical nominalizations, listed as nouns in the lexicon, tend to have more uniform denotations, grammatical nominalizations, which are created for the nonce, do not have fixed denotations, and speech context plays an important role in determining and selecting the denotation most consistent with the context.<sup>6</sup>

### 3 Lexical nominalizations

Since this volume is mainly concerned with syntactic phenomena, we will not dwell on lexical nominalizations, which fall in the domain of word formation.<sup>7</sup> However, at least a couple of topics need to be addressed as a way to motivate our analysis of grammatical nominalizations below. One is the scope of nominalization processes, the issue centering on the question of possible inputs to nominalization processes.

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<sup>6</sup> Fillmore's (1976, 1982) Frame Semantics is an attempt to harness metonymic patterns underlying the understanding of word meaning in a larger framework that aims to represent a speaker/hearer's relevant encyclopedic knowledge mobilized in successful communication. Keith Alan (2001: 251) characterizes a semantic frame as consisting of "characteristic features, attributes, and functions of a denotatum, and **its characteristic interactions with things necessarily or typically associated with it**" (emphasis added). A similar effort is seen in Langacker's (1987) Cognitive Linguistics framework in terms of the notions of "profiling" and "reference point". See sections 6 and 7 for further discussions on the mechanisms of metonymy.

<sup>7</sup> See Shibatani (2017) for discussions of lexical nominalizations and their theoretical implications, including critiques of earlier treatments of them.

The other topic has to do with the range of meaning extension effected by nominalization as a metonymy-based derivational process.

### 3.1 Scope of nominalization

Perhaps influenced by the term “nominalization”, which suggests turning something into a new state, many researchers believe that nominalization is restricted to derivations that turn verbal inputs into nominal outputs. Payne (1997: 223) tells us that “... operations that allow a verb to function as a noun ... are called **nominalizations**, and can be described with a simple formula:  $V \rightarrow N$ .” In a more recent study, Malchukov (2004: 6) characterizes it as a transcategorical operation, noting that “‘nominalization’ actually conflate[s] two properties: ‘deverbalization ... and substantivization (acquisition of noun-properties)’”. While recognizing nominalizations based on nominal inputs, Comrie and Thompson (1997/2007) give short shrift to such cases by allocating only one page and a few additional lines in their 47–page discussions on lexical nominalization. A similar bias toward verbal-based nominalization is also clearly seen in all the papers collected in Yap, Grunow-Hårsta, and Wrona (2011).

It is unclear why these researchers have decided to focus more on verbal-based nominalization, when even in such a well-known language as English exhibits a case where a nominalizer that applies to verbal inputs also takes nominal inputs. The case in point involves the so-called agentive suffix *-er*, deriving verbal-based forms such as *play* > *player*, *sing* > *singer*, which, everyone would agree, is a clear case of lexical nominalization. But this process takes a wide range of nominal inputs, as demonstrated by *villager*, *New Yorker*, *leftfielder*, *knuckleballer*, *tenner*, *49ers*, the aforementioned *half-pounder*, *three-wheeler*, *rear-ender*, *backhander*, etc. While many of these are not strictly agentive, they denote entities that are closely associated with the meaning of the base forms. Whether a derived form denotes an agent or non-agentive entity simply depends on the nature of the base form; verb-based nominalizations denote an entity most closely associated with activities, namely an agent, whereas nominal-based ones denote other types of entities metonymically evoked in close association with the denotations of the base nouns, such as the people associated with specific locations one way or another, and those entities associated with a specific quantity, time, or manner.

This is certainly not limited to English. Parkatêjê, a Je language in northern Brazil, has the agentive suffix *-katê*, which nominalizes verb roots (e.g. *krere* ‘sing’ > *krere-katê* ‘singer’; *jakre* ‘write’ > *jakre-katê* ‘writer’). But this suffix productively applies to animal names as well, producing forms like *pyre* ‘animal’ > *pyre-katê* ‘(animal) hunter’, *rop* ‘jaguar’ > *rop-katê* ‘jaguar hunter’, and *kukryt* ‘tapir’ > *kukryt-katê* ‘tapir hunter’. Yagua in northeast Amazonia has nominalizing classifiers that

apply not only to verbal roots but also to adjectival as well as nominal roots (e.g. *tiryôô-jay* (sleep-CLF.PELT) ‘sleeping mat’, *jaqmu-daisiy* (big-CLF.THIN.POLE) ‘big blowgun, pole’, *nqonoo-jaq* (light-CLF.LIQUID) ‘kerosene’) (Payne 1985). The Salish language Halkomelem has similar nominalizing classifiers that also apply to verbal, adjectival, and nominal roots (e.g. *?itət=ə’wtxʷ* (sleep=CLF.HOUSE) ‘hotel, bedroom’, *q’aq’iy=e’wtxʷ* (sick=CLF.HOUSE), ‘hospital’, *tel=e’wtxʷ* (money=CLF.HOUSE) ‘bank’). (Gerdtz and Hinkson 2004)

Japanese is no exception to this possibility of applying a nominalizing morphology to nouns as well. Sino-Japanese suffixes such as *-sya*, *-syu*, *-si*, and *-ka*, as in *syusseki-sya* ‘attendee’, *kussaku-syu* ‘driller’, *soozyuu-si* ‘operator’, and *katudoo-ka* ‘activist’, derive nouns denoting agent specialists from verbal nouns, which are nouns denoting activities by themselves and which form verbs in combination with the verb *suru* ‘do’; e.g. *syusseki* ‘attending/attendance’ and *syusseki-suru* ‘to attend’. The change from verbal noun to noun is arguably a case of category change, although verbal nouns form a subcategory of nouns. But these noun-deriving formatives, like the English suffixes *-er* and *-ist*, may also attach to simple nouns yielding new nouns, such as *higai-sya* ‘victim’, *uyoku-syu* ‘right-fielder’, *eiyou-si* ‘nutritionist’, and *syoosetu-ka* ‘novelist’.

The Tagalog locative-focus suffix *-an* productively derives verbal-based locative grammatical nominalizations that denote a place where some action takes place. This suffix also attaches to nouns and yields new nouns (lexical nominalizations) denoting locations that the referents of the base nouns are conventionally associated with (Schachter and Otnes 1972/1983: 98ff).

- (1) *ang* [*k<in>ain-an ng=lalaki*]

TOP eat<PRFV>-LF GEN=man

‘where the man eats’

- (2) *aklat* ‘book’ > *aklat-an* ‘library’

*halaman* ‘plant’ > *halaman-an* ‘garden’

*tarangka* ‘lock’ > *tarangka-han* ‘gate’

These Tagalog forms point out two crucial facts for our analysis of nominalization: (i) that nominalization processes may also apply to non-verbal forms, especially to nouns, and (ii) that the four types of nominalizations – namely, lexical and grammatical nominalization, on the one hand, and verbal-based and nominal-based nominalization, on the other – constitute a unitary phenomenon that needs to be treated in a comprehensive manner. The following discussions corroborate these points, especially the point that verbal-based nominalization and nominal-based nominalization are intimately connected and that the latter also plays a vital role in grammar.

### 3.2 Meaning types of lexical nominalizations

Metonymy is a powerful cognitive process that allows a variety of form-concept connections, increasing the expressive power of a language with limited resources. It takes advantage of our knowledge that many things in the world occur in close association. Verbal-based nominalization evokes various concepts intimately related to what the verbal bases denote, namely states, processes, activities, attendant protagonists such as agents and patients, resultant products, as well as instruments and locations constantly associated with particular activities. While some lexical nominalizations involve morphology that delimits the range of meanings associated with the derived nominals, as in the case of the English suffix *-er* and the Sino-Japanese formatives seen above, some others may form nominalizations with a greater range of meanings. Of the Japanese lexical nominalizations, stem nominalizations, involving *-i/-Ø* suffixes<sup>8</sup>, display a diverse array of meaning patterns on their own but more typically in forming compounds with another nominal element. However, the form-meaning connections are not random and are metonymically bound such that some meaning patterns are more consistently observed while others are not.

For example, stem nominalizations based on change-of-state process verb roots denote resultant states and products closely associated with the change-of-state event, as in [kumor-] > [kumor-i] ‘clouded state’, [usu-[gumor-i]] ‘lightly clouded state’, [kor-] > [kor-i] ‘stiffness’, [kata-[kor-i]] ‘shoulder stiffness’, but never activities or agents, because these are beyond the range of metonymically evocable concepts associated with simple processes. Action-process verb roots such as *age-* ‘fry’ and *hos-* ‘dry’, on the other hand, may produce forms that denote either activities or resultant products, as in [age-Ø] ‘thin fried tofu’, [kara-[age-Ø]] ‘frying with light coating’ or ‘fried stuff with light coating’, and [itiya-[bos-i]] ‘drying overnight (in the air)’ or [itiya-[bos-i]] ‘stuff dried overnight (in the air)’. What follows summarizes major form-meaning patterns that stem nominalizations display.<sup>9</sup>

- (3) a. Process/Activity: *nagare* ‘flowing’, *suberi* ‘sliding’, *ugoki* ‘movement’, *oyogi* ‘swimming’, *ake-sime* ‘opening and closing’, *mawasi-yomi* (rounding-reading) ‘reading by circulating reading materials in a group’, *yama-nobori* ‘mountain climbing’, *hito-gorosi* (person-killing) ‘manslaughter’

<sup>8</sup> These nominalizations, often labeled ‘infinitive’, involve the suffix *-i* attaching to a consonant-ending root/stem (e.g. *odor-* > *odor-i* ‘dancing/dance’), and *-Ø* to a vowel-ending root/stem (e.g. *kake-* > *kake* ‘betting’). Besides the term ‘infinitive’, ‘participle’ used in European linguistics also refers to grammatical nominalizations.

<sup>9</sup> It would be interesting to ask whether all these meaning patterns have independently developed or some have secondarily developed on the basis of some other patterns.

- b. State/Characteristic person: *hare* 'fine weather condition', *yu-u-yake* (evening-burning) 'evening glow', *zikan-gire* 'time expiration', *ame-agari* (rain-stopping) 'after the rain', *hanasi-zuki* (talk-liking) 'a talkative person', *Tookyoo-umare* 'a Tokyo-born'
- c. Agent/Natural force: *suri* 'pick pocket', *tasuke* 'helper', *hito-gorosi* 'killer', *uso-tuki* (lie-telling) 'liar', *arasi* 'storm', *hubuki* 'snow storm'
- d. Instrument/Chemical agent: *hasami* 'scissors', *hakari* 'scale', *nezi-mawasi* 'screw driver', *tume-kiri* 'nail cutter', *ha-migaki* 'tooth paste', *simi-nuki* 'stain remover'
- e. Patient: *yatoi* 'employee', *tukai* 'errand runner', *tumami* 'what is picked/hors d'oeuvre', *tukuri* 'prepared raw fish/sashimi', *ture* 'one taken along/companion'
- f. Resultant product: *koori* 'ice', *yogore* 'stain', *age* 'thin fried-tofu', *kangae* 'thought', *kasi* 'loan', *sirase* 'message', *sasayaki* 'a whisper', *saezuri* 'a chirp'
- g. Location: *hanare* 'detached room/house', *nagasi* 'sink', *watasi* 'landing pier', *mono-hosi* 'cloth-drying place', *mono-oki* (thing-placing) 'place to keep stuff'
- h. Game name: *tako-age* 'kite flying', *karuta-tori* 'playing Japanese cards', *nawa-tobi* 'rope skipping'
- i. Sports technique: *seoi-nage* (Jūdō), *oosoto-gari* (Jūdō), *uwate-nage* (Sumō), *osi-dasi* (Sumō)

One characteristic that distinguishes lexical nominalizations of the type seen above and grammatical nominalizations, to be discussed presently, is that the former, being lexical processes, have irregular gaps in the meaning patterns. While many based on action verb roots allow both activity and agent/instrument readings (*suri* 'pickpocketing/pickpocket', *hito-gorosi* 'manslaughter/killer', *simi-nuki* 'stain removing/stain remover'), many other similar forms have only one reading. Forms like *yama-nobori* 'mountain climbing', *uo-turi* 'fish catching', and *sumi yaki* 'charcoal-making' only denote activities, whereas *uta-utai* (song-singing) 'singer', *e-kaki* (picture-drawing) 'painter', and *sumoo-tori* (sumo-taking) 'sumo-wrestler' name only agents and not activities such that while *yama-nobori-suru* 'do mountain-climbing' is possible, \**uta-utai-suru* 'do song-singing' is not. Grammatical nominalizations differ from lexical nominalizations in that they are created for the nonce. Accordingly, their meanings tend to be compositional. However, the meanings of grammatical nominalizations, which show a great deal of overlap in the patterns of lexical nominalizations seen in (2), tend to be vaguer than lexical nominalizations.

Shibatani (2017) analyzes stem nominalizations as sublexical structures/constructions that may form nouns by themselves or only in combination with another nominal. The former are freestanding stem nominalizations (e.g. *asobi* 'playing',



*nagare* ‘flowing/stream’) that function as nouns by themselves. They achieve a noun status in the manner of  $[[asob-i]_{NMLZ}]_N$  and  $[[nagare-\emptyset]_{NMLZ}]_N$ , distinguishing themselves from underived ones such as  $[yama]_N$  ‘mountain’ and  $[inu]_N$  ‘dog’. There are numerous stem nominalizations that only function as compound formatives and that do not acquire a noun status by themselves. For example, neither of the components of the compounds *ake-sime* ‘opening and closing’ and *kaki-oki* (writing-putting) ‘a memo left behind’ occur as freestanding nouns, and their status remains sublexical. The relevant compounds thus involve two nominalized compound formatives in the manner of  $[[ake-\emptyset]_{NMLZ}][sime-\emptyset]_{NMLZ}]_{VN}$  and  $[[kak-i]_{NMLZ}][ok-i]_{NMLZ}]_{VN}$ .<sup>10</sup> We shall now turn to the discussions of grammatical nominalizations that are larger in size than lexical nominalizations but that also function as nominalization structures and are hence representable as  $[...]_{NMLZ}$ , which play different grammatical functions as in the case of lexical nominalizations.

## 4 Grammatical nominalizations

Like bound compound formatives, grammatical nominalizations are not subject to part-of-speech classification, contrary to the term *Meishika* (noun-forming) used in the literature<sup>11</sup>. Similar to lexical nominalization, grammatical nominalization produces structures that denote metonymically evoked entity (thing and thing-like) concepts. Because of this entity-denoting function, shared by all nominal forms, grammatical nominalizations head an NP, the most telling syntactic property of nominals. In addition, they may function as a modifier in an NP, or they play an adverbial function, typically in combination with an adverbial particle (see below). These are all uses of grammatical nominalizations, not what grammatical nominalizations are per se, as we shall see below.

<sup>10</sup> These are similar to Sino-Japanese compound formatives, such as *doku* ‘alone/single’ and *ritu* ‘stand’ in  $[[doku]_7][ritu]_7]_{VN}$  ‘independence’, which do not occur as independent nouns or verbs, but which recur widely as compound formatives.

<sup>11</sup> The term “part of speech” refers to WORD categories and do not apply to roots, affixes, and phrasal structures, which are not words. One may classify different roots as “verb roots”, “adjective roots”, and suffixes as “causative suffix” and “passive suffix”, etc. depending on their morphological and functional status, but verb roots, for example, need to be clearly distinguished from verbs. Verb roots become verbs when they are inflected for tense or mood, as in *yorokob-u/yorokon-da* ‘rejoice-PRS/rejoice-PST’ and *yorokob-e* ‘rejoice-IMP’, and they become nouns when they undergo the stem nominalization discussed here, as in *yorokob-i* ‘pleasure’, when they have a word status as in this example. Similarly, adjective roots are not adjectives by themselves; they become adjectival predicates when they form words with the *-i* tense suffix (e.g. *tuyo-i* ‘be strong’), nouns when suffixed by *-sa* (*tuyo-sa* ‘strength’), or adverbs when suffixed by *-ku* (*tuyo-ku* ‘strongly’). In this way, Japanese inflecting roots are “precategorical” in the sense that their part of speech is not predetermined.

## 4.1 Stem nominalizations as grammatical nominalizations

Before turning to the discussions of the prevalent types of grammatical nominalizations, let us briefly look at some phenomena that suggest that stem nominalization mentioned above may have been a productive grammatical nominalization process in the past.

Japanese has an evidential marker, *soo*, which marks information obtained typically based on visible evidence about certain states and properties. It attaches to adjectival nouns such as the native word *siawase* ‘happiness’ and the Sino-Japanese form *kenkoo* ‘health’, which, like other nouns, require the copula *da* for predication.<sup>12</sup> Adjective roots denoting states and properties also take *soo* as in (5b):

- (4) a. *Takasi wa siawase da.*  
           TOP happy COP  
           ‘Takashi is happy.’
- b. *Takasi wa siawase=soo da.*  
           happy=EVID  
           ‘Takashi looks happy.’
- (5) a. *Takasi wa kasiko-i.*  
           TOP smart-PRS  
           ‘Takashi is smart.’
- b. *Takasi wa kasiko-Ø=soo da.*  
           smart-NMLZR-EVID COP (NMLZR = nominalizer)  
           ‘Takashi looks smart.’

It is not clear whether the adjective root *kasiko*- ‘smart’ in Modern Japanese as seen in (5b) is inherently nominal or has been nominalized via stem nominalization. Since all adjective roots end in a vowel,  $\emptyset$ -stem nominalization would apply producing the form identical with the root form.<sup>13</sup> We tentatively assume that adjective roots undergo  $\emptyset$ -stem nominalization, as indicated in the gloss for (5b). Either way, they follow the pattern of adjectival nouns, suggesting that the *soo* evidential attaches to nominals denoting property concepts, or conversely, what can be marked by the *soo* evidential is nominal.

<sup>12</sup> We divide the class of *Keiyōdōshi* (adjectival verb) in Japanese school grammar into two classes; **adjectival nouns** (*siawase* ‘happiness’, *kenkoo* ‘health’) may function as a noun, and take the copula *da* in predication function and *na* or *no* in modification function; **nominal adjectives** (*kirei* ‘pretty’, *zyūdai* ‘important’) do not function as a noun, and take *da* in predication function and *na* exclusively in modification function.

<sup>13</sup> Frellesvig (2010: 79) states, without offering evidence, that Old Japanese “[a]djectives are nominal roots or stems”.

Now, this *soo* evidential also attaches to verbal-based stem nominalizations. For example,

- (6) [*Ame ga kyuuni huridas-i*]=*soo da*.  
 rain NOM suddenly fall.start-NMLZR=EVID COP  
 ‘It appears that rain will start falling suddenly.’

When verbal-based nominalizations are involved, the *soo* evidential points to a circumstance with some visible sign of the imminent occurrence of a process or action. Our point here is that this kind of *i*-/Ø-nominalizations are not words but have structures like a VP or a clause, indicating that the stem nominalization also produces grammatical nominalizations with structures larger than words. This is also seen with the desiderative predicates derived via suffixation of *-ta*, which conjugate like adjectives (e.g. *yomi-ta-i* ‘want to read’).

- (7) *Takasi ga [hon o yomi-ta-Ø]=soo ni siteiru*.  
 NOM book ACC read-DES-NMLZR=EVID PRT is.doing  
 ‘Takashi looks like wanting to read a book.’

Grammatical nominalizations derived by the stem nominalization also have an adverbial use in combination with the particle *ni*, occurring in a position where an NP headed by a verbal noun occurs:

- (8) a. *Takasi wa [siryoo no [syuusyuu]<sub>VN</sub>]NP ni tosyokan ni itta*.  
 TOP material GEN collecting PRT library to went  
 ‘Takashi went to the library for collecting material.’  
 b. *Takasi wa [hon o yom-i] ni tosyokan ni itta*.<sup>14</sup>  
 read-NMLZR  
 ‘Takashi went to the library for reading books.’

While these usage patterns of the relevant nominalization structures are highly productive in Modern Japanese, they are atypical as nominalizations in that they do not head an argument NP, nor do they modify a noun like more typical grammatical nominalizations to be discussed next.<sup>15</sup> But the usage patterns seen above suggest

<sup>14</sup> This is what Yamada (1908) calls “purposive grammatical nominalization” (see below).

<sup>15</sup> This type of stem nominalizations when marked by the conjunctive particle *=te*, as found in expressions like [*hon o yon*]=*de kaetta* ‘having read a book, (I) returned home’, historically arising from the form [*hon o yom-i*]=*te*, can head a topic NP, as in [*kono hon o yon*]=*de wa ikemasen* ‘(you) should not read this book’, or can modify a noun in the manner of a regular noun, as in [*tosyokan de hon o yon=de*] *no kaeri* ‘a return home having read a book at the library’ (cf. [*eiga*] *no kaeri* ‘(lit.) movie’s return home/a return home after the movie’).

that stem nominalization may once have been a productive process that has become a more restrictive lexical process in recent history. Just as with the Tagalog case mentioned earlier, Japanese also shows that lexical and grammatical nominalizations may overlap in morphological marking suggesting that the two are similar phenomena.

## 4.2 Verbal-based grammatical nominalizations

YAMADA Yoshio (1873–1958) was perhaps the first to study Japanese grammatical nominalizations in some detail. But his seminal study has not received the critical appraisal it deserves, nor has any attempt to extend his work beyond its limitations succeeded in drawing the far-reaching theoretical implications that a proper analysis of grammatical nominalizations is bound to make. In his monumental *Nihonbunpōron* [Theory of Japanese grammar] (1908), Yamada recognized the following types of grammatical nominalizations, which he termed *Juntaigen* (quasi-nominal) after the term *Taigen* (nominal).

(9) a. True grammatical nominalization

[Yorokobu] wa yoku, [ikaru] wa asi.<sup>16</sup>  
 rejoicing TOP good getting.angry TOP bad  
 ‘Rejoicing is good, and getting angry is bad.’

b. Abbreviated grammatical nominalization

[Ikareru] wa kare ni site, [yorokobu] wa ware nari.  
 angry.one TOP he COP do-GER rejoicing.one TOP I COP  
 ‘The angry one is he, and the one rejoicing is I.’

c. Clausal grammatical nominalization

[Hito no yorokobu] o mireba uresi.  
 person GEN rejoicing ACC when.seeing delighted  
 ‘When (I) see people rejoicing, I feel delighted.’

d. Purposive grammatical nominalization (cf. (8b))

[Hana o mi] ni iku.  
 flower ACC seeing PRT go  
 ‘(I) will go to see flowers.’

<sup>16</sup> Yamada’s examples are in Classical Japanese form.

Despite his definition of grammatical nominalizations as “the adnominal forms of conjugating words [verbs and adjectives] used in the nominal status” (p. 707), the revered guru of modern Japanese grammatical studies fails to grasp the true nature of what he terms “abbreviated grammatical nominalizations” illustrated in (9b). Likely influenced by the term *Rentaikei* (adnominal form), Yamada describes these nominalizations as involving

“conjugating words [e.g. *ikareru* ‘angry (one)’] **that modify substantive concepts**. What is modified here, however, has been absorbed in the conjugating words and cannot be recognized in external form. In order to understand these, *hito* [person], *mono* [person], *mono* [thing], etc. must be added after the relevant conjugating words.” (ibid., my translation; emphasis added)

This interpretation is curious in view of the fact that the same verbal-based forms *yorokobu* ‘being glad/one who is glad’ is seen in what Yamada calls “true grammatical nominalizations” in (9a) and “clausal grammatical nominalizations” in (9c), where he apparently would not consider those forms to be modifying a substantive concept.

When Yamada defined grammatical nominalizations as words “conjugated” in the so-called adnominal form that function like nominals, he seems to have had in mind the syntactic properties of these forms, such as their functioning as sentence subjects and objects, rather than the more basic meaning function that all nominals bear, namely the function of denoting substantive concepts. Had Yamada taken this fundamental function of nominals more seriously, he would have analyzed forms such as *ikareru* ‘angry one’ and *yorokobu* ‘one who is glad’ in (9b) as directly bearing the nominal, entity-denoting function, denoting entities that are metonymically evoked by these forms – a person who is being angry and one who is glad, in this case. While inventing the new term *Juntaigen*, Yamada still falls victim of the traditional term *Rentaikei* reflecting an adnominal modification function. Had he considered the *Rentaikei* as representing a derivation, rather than a verbal conjugation, that yields nominalization structures with a nominal denotation function, he would have had a more straightforward analysis that connects the meaning function of nominalizations to their syntactic functions consistent with how nouns in general function in grammar. In other words, it is the sharing of the function of denoting substantive concepts that makes nominalizations and nouns pattern syntactically alike.

The essential difference between Yamada’s true nominalizations (9a) and abbreviated nominalizations (9b) is, then, whether the structure denotes an event – or a state-of-affairs more broadly – or denotes more concrete substantive entities. What Yamada calls “clausal nominalizations” in (9c) are also event nominalizations with a modifier, which specifies an event participant in this case (see section 6 for discussions on the differences between clauses and sentences, on the one hand, and nominalizations, on the other).



- (ii) [*Watasi ga umareta*] *no wa Saitama – sono inaka mati*  
 I NOM was.born PRT TOP that rural town  
*ni aru syakuya datta.*  
 in exist rental.house was

‘Where I was born was a rental house in a rural town in Saitama.’

- (iii) [*Hotyoo ga hayai*] *no wa kanzyooteki ni natte iru*  
 step NOM quick PRT TOP emotional to become be  
*kara daroo.*  
 from COP.CONJEC

‘(The reason) why (her) steps are quick is perhaps because (she) has become emotional.’

d. Event participant

- (i) *Hora, [sensei ga izen kingyo no e o kaita] no*  
 look teacher NOM before gold.fish GEN picture ACC drew PRT  
*ga aru desyoo.*  
 NOM exist COP.CNJ

‘(Lit.) Look; there is that the teacher drew a picture of a gold fish sometime ago, isn’t there?’/‘Look; there’s a picture of a gold fish that the teacher drew some time ago isn’t there?’

- (ii) [*Suberi no warui hikido ga oto o tateru*] *no*  
 sliding GEN bad sliding.door NOM sound ACC emit PRT  
*o kiite, ...*  
 ACC hear.GER

‘Upon hearing the bad sliding door make sounds...’

e. Resultant product

- (i) [*Sobo no katte iru zyuusimatu ga saezuru*] *no o*  
 grand.mother GEN keep society.finch NOM chirp PRT ACC  
*kiita.*  
 heard

‘(I) heard the society finch chirp that (my) grandmother keeps.’

- (ii) *Ogata wa waratte [syuumai ni kiroi karasi o*  
 Ogata TOP smile.GER dumpling to yellow mustard ACC  
*tappuri nutta] no o, ikioiyoku kuti no naka ni*  
 amply smeared PRT ACC vigorously mouth GEN inside to  
*hoori konda.*  
 throw pushed

‘Ogata smiled and shoved into his mouth a dumpling smeared full of mustered.’

These constructions are interesting in that the bracketed nominalization structures are syntactic arguments, but they do not represent the semantic arguments of the main clause predicates in a direct manner like simple noun phrase arguments. For example, what Masako learned in (10b) is a fact, and what was heard in (10e.i) was the chirping sounds of the society finch, but these are not given as NP arguments [zizitu] ‘fact’ and [zyuusimatu no saezuri] ‘chirping sounds of the society finch’ in the relevant structures.

In some circles (e.g. Keenan 1985; Kuroda 1992), constructions like (10d) are analyzed as *internally-headed relative clauses*, assuming (i) that these are relative clauses, and (ii) that a head nominal exists within relative clauses unlike regular relative clause constructions, where a head exists externally in the main clause. A problem with the first assumption is that it is not at all obvious that these structures have the function of relative clauses, which is either to restrict the denotation of the head noun (restrictive relatives) or to identify the head noun in terms of the denotation of a modifying nominalization structure (non-restrictive relatives). The second assumption that in these structures an argument internal to the “relative clause” is the argument of the main-clause predicate is also problematic. Such an assumption does not extend to other constructions without an external head like (10e), where there is no NP within the “relative clause” that can serve as a main-clause argument. The nominalization structures in (10a–c) also lack an internal argument that can serve as a head, as seen in a comparison between them and the synonymous constructions below, where an NP argument of the main clause predicates is explicitly coded:

- (11) a. [Haha ga you] zyookyoo o itumo mitemasita kara ...  
 mother NOM getting.drunk scene ACC always watched because  
 ‘Because I always watched the scene that my mother was getting drunk ...’
- b. Masako wa [otto ni sonna onna ga ita] zizitu  
 TOP husband LOC such woman NOM existing fact  
 o sitta.  
 ACC learned  
 ‘Masako learned the fact that (her) husband had such a woman.’
- c. [Watasi ga umareta] basyo wa Saitama – sono inaka mati  
 I NOM was.born place top that rural town  
 ni aru syakuya datta.  
 in exist rental.house was  
 ‘The place where I was born was a rental house in a rural town in Saitama.’

Whatever analysis is offered to these cases, the proposal to analyze forms like (10d) as internally-headed relative clauses divides the phenomenon into two or more



sub-phenomena, while the metonymy-based analysis treats it uniformly. All these constructions contain nominalization structures that, like lexical nominalizations discussed earlier, metonymically evoke concepts such as situations associated with events, circumstantial matters like time, location, and reason for an event, event participants, as well as resultant products closely associated with an event. In these constructions, nominalization structures function as syntactic arguments as a subject or object precisely because they evoke and stand for thing-like entities just like nouns do. The metonymic relation seen here between the nominalization structures and what they stand for parallels the ordinary metonymic patterns such as *huro ga waita* (bath NOM has.boiled) “the bath has boiled (= the bath is ready)” and *Bētōben o kiku* “listen to Beethoven”, where the metonymically evoked entities, not what the syntactic arguments literally denote, serve as the semantic arguments of the verbs.

Note, at this juncture, that nominalization is not a morphological concept or process. Accordingly, nominalization structures are not necessarily associated with a morphological marker, though many are. The English nominalization process known as “conversion” does not involve a morphological marker ([cook]<sub>V</sub> > [cook]<sub>N</sub>). One type of the English “factive nominals” typically take *that* as a marker, but may not in some contexts; *I know [John is honest]<sub>NMLZ</sub>*. In Chinese, while argument nominalizations (see next subsection) involve a morphological marker, event nominalizations may not ([*tā dǎ rén*]<sub>NMLZ</sub> *shì bú duì=de* ‘[(that) he hits people] is not right’). While in many languages verbs undergo a morphological alteration under nominalization, in both English and Chinese verbal forms in nominalizations are no different from finite verb forms.<sup>18</sup> These structures are recognized as nominalizations not because of morphological properties but because of their nominal denotations and external syntagmatic properties that may be morphologically indicated in some other languages.

In our analysis nominalization structures analyzed and labeled as [...]<sub>NMLZ</sub> are grammatical constructions of various sizes in the sense of Construction Grammar. Grammars contain various constructions that are smaller or larger in size than words that are not categorizable as words such as Noun or Verb or phrasal units such as NP or VP, though they may function as constituents of these units. For example, the conjoined structures [\$10 to Pat] and [\$5 to Kim], as well as the entire coordinate structure [\$10 to Pat and \$5 to Kim] in *I gave \$10 to Pat and \$5 to Kim* are neither NPs nor any other known phrasal categories because they are not constituents

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<sup>18</sup> In the case of Japanese, there is the possibility of analyzing the verbal-based nominalizations of the type seen in this section as involving nominalized verb forms (so-called *Rentaikei*) that are identical in form to the finite verb forms (*Shūshikei*) due to a historical process merging the two. This is the position taken by Japanese school grammar that recognizes separate *Rentaikei* and *Shūshikei* forms though they are identical in form, except for the copula *da* accompanying an adjectival noun and a nominal adjective in a predicative function.

in other contexts. Similarly, *extremely expensive and in bad taste* in *This dress is extremely expensive and in bad taste* is a grammatical construction that functions as a predicative complement like an adjectival phrase (*extremely expensive*) and a prepositional phrase (*in bad taste*), but it is neither an AP nor a PP. A view that grammatical units must be morphemes, words, or familiar phrasal categories such as NP and VP is based on limited observation of possible grammatical constructions. The field has learned that N and NP alone did not provide enough nominal categories to handle some known facts, which motivated the recognition of an intermediate nominal category N'. We are arguing in this paper that it is high time we recognized the nominalization structure [...] <sub>NMLZ</sub> on account of its nominal semantic and syntactic properties. These points are further demonstrated in a clearer manner by another type of grammatical nominalizations that we call *argument nominalization*, to which we now turn.

#### 4.2.2 Argument nominalizations

Event nominalizations may evoke event participants, as seen in (10d). When the structure contains two NP arguments, a possible ambiguity arises regarding which of the arguments is the intended denotation, as in the following type of example attributed to S.-Y. Kuroda:

- (12) *Gakusei wa [sihuku ga doroboo o oikakete iru] no*  
 student TOP plainclothes.police NOM thief ACC chasing PRT  
*o tukamaete, nezihuseta.*  
 ACC catching tackled.down  
 '(Lit.) The student caught and tackled down that a plainclothes police was chasing a thief.'

This sentence can be disambiguated by leaving empty an argument position within the nominalization structure, as below:

- (13) a. *Gakusei wa [Ø doroboo o oikakete iru] no o tukamaete, nezihuseta.*  
 'The student caught and tackled down the one that was chasing a thief.'  
 b. *Gakusei wa [sihuku ga Ø oikakete iru] no o tukamaete, nezihuseta.*  
 'The student caught and tackled down the one that a plainclothes police was chasing.'

Unlike the event nominalizations discussed in the preceding subsection, which may evoke a variety of concepts metonymically related to the basic events denoted by the

structures, these nominalizations are dedicated to denoting event participants, whose semantic roles are indicated by the position of a gap. The subject argument nominalization has a gap in subject position, as in (13a), and the nominalization structure as a whole denotes an entity acting as an agentive participant. The object argument nominalization, on the other hand, contains a gap in object position and denotes a patientive participant, as in (13b). Again, the entire nominalization structures marked by the particle *no* function as syntactic objects of the main-clause verbs. They can bear these grammatical functions precisely because they denote substantive concepts just like any noun.

As in other cases of metonymy, the actual denotation/reference of an argument nominalization is determined by context, as in (14) below, where there are two argument nominalizations, *zyukusita (no)* and *katamena (no)*, which can potentially refer to a variety of ripe things (e.g. mangoes, bananas, tomatoes) and things that are slightly hard (mangoes, avocados, pasta), respectively. The context and the Gricean Maxim of Relevance, however, tell us that the author is referring to the mountain persimmons given to him.

- (14) *Yama no mura no Natanosyoo ni tyuuzai siteita toki,*  
 mountain GEN village GEN LOC residence was.doing time  
*yama-gaki ga dekiru to, mura no ie kara*  
 mountain-persimmon NOM bear.fruit when village GEN house from  
*moratta koto wa aru. Keredomo, zyukusita no o sonomama*  
 received NMLZ TOP exist however ripen(ones) PRT ACC as.is  
*kuu ka sukosi katame-na no wa, kawa o muite hosi-gaki*  
 eat INT a.little hard(ones) PRT TOP skin ACC peel dried-persimmon  
*ni suru ka datta.* (MIZUKAMI Tsutomu, *Kokyō*)  
 DAT do INT was

‘During my residency at a police substation in Natanoshō, a mountain village, when the season of mountain persimmon arrived, I indeed received some from villagers. However, I ate ripen ones as they are, or slightly hard ones, I peeled them and made dried persimmons.’

Because these nominalizations in central dialects of Japanese, including Tokyo Japanese, are marked by the particle *no*, and because their interpretations depend on context, Kinsui (1995) and some others treat this particle as a pronominal *no*, which heads a nominalization and which functions as an anaphor. Such an analysis, however, does not extend to comparable nominalization structures in some other dialects that have not developed a particle similar to *no*. Observe the following from the Izumo dialect in Western Japan.

- (15) a. [Okke na]<sub>NMLZ</sub><sup>19</sup> wa umai. (Izumo dialect)  
big COP TOP tasty  
'A/the big one is tasty.'
- a'. [Ooki na]<sub>NMLZ</sub> no wa umai. (Central dialect)  
big COP PRT TOP tasty  
'A/the big one is tasty.'
- b. Kono [yaita]<sub>NMLZ</sub><sup>20</sup> o gosinahi. (Izumo dialect)  
this grilled ACC give.me  
'Give me this grilled one, please.'
- b'. Kono [yaita]<sub>NMLZ</sub> no o kudasai. (Central dialect)  
this grilled PRT ACC give.me  
'Give me this grilled one, please.'

Notice that these Izumo forms without *no* receive exactly the same referential interpretations appropriate to the context as the *no*-marked central dialect forms, indicating that *no* actually does not play a role in determining reference in argument nominalization. In other words, there is nothing like a pronominal *no* in Japanese.

Another very popular analysis of these argument nominalizations is deriving them from relative clause constructions, which are said to undergo deletion of their head nouns when their identity is obvious from the context. For example, (16b) would be derived from (16a) in this analysis.

- (16) a. *Kono* [[*yaita*] ***sakana***] *o kudasai/gosinahai.*  
           this grilled fish ACC please.give.me  
           ‘Give me this grilled fish, please.’  
       b. *Kono* [[*yaita*] (***no***)] *o kudasai/gosinahai.*  
                                   PRT  
           ‘Give me this grilled one, please.’

The problem here is that a full deletion account must refer to context anyway; i.e. when does the deletion apply? Our point is that, if we have to refer to context, let the context and the Gricean Cooperative Principle do the whole work of determining

**19** These nominalizations, like regular nouns, can also be modified by nouns; [[sakana no [okke na]<sub>NMLZ</sub>]<sub>NP</sub> ga tureta '(lit.) A big one of fish got caught', [[sakana no [yaita]<sub>NMLZ</sub>]<sub>NP</sub> o gosinahai '(lit.) Give me a grilled one of fish, please'. Cf. [[sakana no [nimono]<sub>N</sub>]<sub>NP</sub> '(lit.) cooked food of fish/cooked fish', [[nasu no [tukemono]<sub>N</sub>]<sub>NP</sub> '(lit.) pickles of eggplants/pickled eggplants'.

**20** See section 6 on the true role of the nominalization particle *no* seen here.

the reference of an argument nominalization without resorting to a pronominal *no*, which doesn't work in the case of the Izumo dialect anyway, or positing an unexpressed head noun, a practice that goes against Occam's razor.

### 4.2.3 Structures and their use

Grammatical structures, whether words or units larger in size than words, function differently depending on their uses. Nominals, including nominalizations, have two major uses, an NP-use and a modification-use. Observe these two uses of the noun *inu* 'dog'.

(17) a. NP-use/Referential function

[[*Inu*]<sub>N</sub>]<sub>NP</sub>    *wa*    *tyuuzitu na doobutu da*.  
 dog            TOP    loyal            animal    COP  
 'Dogs are loyal animals.'

b. Modification-use/Restrictive function<sup>21</sup>

[[*inu*]<sub>N</sub> [*koya*]<sub>N</sub>]<sub>N</sub> (noun compound) (cf. *tori-goya* 'chicken coops')  
 dog        shack  
 'kennel'

In (17a) the noun [*inu*]<sub>N</sub> heads an NP and has a referential function at the NP level, referring to a type of animal in the real world. In (17b) the same noun functions as a modifier of the head noun, restricting the denotation of the latter to its subset. The important point here is that a structure does not change its grammatical category under different uses. In particular, nouns do not become adjectives even when they play a modification function.<sup>22</sup>

Nominalizations, qua quasi-nominals, behave like regular nouns in allowing both NP- and modification-use. The examples in the preceding subsections all demonstrate the NP-use of grammatical nominalizations, where they have a referential function as the head of an NP. The following examples show the parallelism observed in the usage pattern between a regular noun ((17a)–(17b)) and an argument nominalization.

<sup>21</sup> Japanese nouns do not syntactically modify nouns directly (but see section 7), as in English, which allows non-compound, syntactic modification by nouns, as in [[*cotton*]<sub>N</sub> [*shirt*]<sub>N</sub>]<sub>NP</sub> and [[*car*]<sub>N</sub> [*smell*]<sub>N</sub>]<sub>NP</sub>, or by NPs, as in [[*Egyptian*]<sub>A</sub> [*cotton*]<sub>N</sub>]<sub>NP</sub> [*shirt*]<sub>N</sub>]<sub>NP</sub> and [[*new*]<sub>A</sub> [*car*]<sub>N</sub>]<sub>NP</sub> [*smell*]<sub>N</sub>]<sub>NP</sub>.

<sup>22</sup> If the noun *car* in *a car smell* has turned to an adjective, we would expect it to be modified by an adverb, e.g. *newly*. It is modified by an adjective as *a new car smell*, indicating that *car* remains a noun in its modification-use.

## (18) a. NP-use/Referential function

[[[*Hanako ga*  $\emptyset$  *katte-kita*]<sub>NMLZ</sub> *no*]<sub>NMLZ</sub>]<sub>NP</sub> *o minnade tabeta.*  
 NOM buying-came PRT ACC by.everyone ate  
 ‘(Lit.) We ate all together what Hanako bought and came.’

## b. Modification-use/Restrictive function

[[*Hanako ga*  $\emptyset$  *katte kita*]<sub>NMLZ</sub> *ringo*]<sub>NP</sub> *o minnade tabeta.*  
 apple  
 ‘(Lit.) We ate all together the apples that Hanako bought and came.’

So-called relative clauses (e.g. (18b)) involve two nominal structures, both with an entity denoting function, whereby a modifying nominalization denotes a subset of the denotation of the head noun. In this way, a construction with a restrictive function is characterized by a modifying structure that specifies a subset of the denotation of the head noun. Our analysis of so-called relative clauses is largely consistent with the treatment of restrictive relative clauses in Formal Semantics, which would analyze a structure like *apples that Hanako bought* as denoting the intersection of the two sets of objects specified as  $\{x \mid x \text{ are apples}\}$  and  $\{x \mid \text{Hanako bought } x\}$ . The only difference is that we would define the second set in terms of the entities that are evoked by the nominalization structure, namely as  $\{x \mid x \text{ is what is denoted by } [\dots]_{\text{NMLZ}}\}$ .<sup>23</sup>

Event nominalizations also permit two uses:

## (19) a. NP-use/Referential function

[[[*Takasi ga kekkonsite ita*]<sub>NMLZ</sub> *no*]<sub>NMLZ</sub>]<sub>NP</sub> *o daremo siranakatta.*  
 NOM had.been.married PRT ACC even.a.single.person  
 did.not.know  
 ‘No one knew that Takashi had been married.’

## b. Modification-use/Identification function

[[*Takasi ga kekkonsite ita*]<sub>NMLZ</sub> [*zizitu*]<sub>N</sub>]<sub>NP</sub> *o daremo siranakatta.*  
 fact  
 ‘No one knew the fact that Takashi had been married.’

Example (19b) involves a nominalization as a modifier that identifies the head noun as one that the nominalization structure denotes, namely the fact that Takashi had been married.

<sup>23</sup> Our generalized formulation covers restrictive modification by both an argument nominalization, which has a gap in an argument position, and an event nominalization, which does not have a gap in an argument position, as well as by nominal-based nominalizations discussed subsequently beginning section 4.3. See section 7 for further discussions on restrictive and identifying modification.

Yamada (1908: 1461–62) correctly recognizes the two uses of nominalizations shown in (18) and (19), but he then curiously suggests that these nominalizations become special types of clause, as if nominalizations somehow turn into clauses under the two uses. He tells us that the nominalizations in an NP-use can be called *Juntaiku* (nominalization clause), and those in a modification-use *Rentaiku* (adnominal clause). Yamada's move is in line with the Western grammatical tradition that identifies the nominalization structure in (18b) as a relative CLAUSE and (19b) as a content CLAUSE. Our analysis, however, reveals that there exist nothing like relative clauses and content clauses apart from a modification-use of argument and event nominalizations, respectively. Indeed, there is nothing that indicates that these nominalization structures turn into clauses under the two uses for them.

#### 4.2.4 Clauses, sentences, and nominalizations

Those who identify so-called relative clauses and complement or subordinate clauses as clauses (or even as sentences)<sup>24</sup> fail to make a clear distinction between internal and external properties of grammatical constructions, and to properly understand how structures are defined and categorized. Many grammatical nominalizations have verbal syntax structure-internally. For example, the English event nominalization [that [John recklessly shoots trespassers]] contains a finite verb that agrees with the subject, an adverb that modifies the verb, and the verb *shoots* is followed by a direct object in exactly the same way as in the sentence *John recklessly shoots trespassers*. However, these verbal properties are structure internal, while the category of a structure is determined by its semantic and external morphosyntactic properties. Lexical nominalizations like (*We built that*) *building*, (*Those terrible*) *shootings* (*are deplorable*) are categorized as nouns on the account of their property of denoting things, such as physical objects and abstract entities like events and facts, which are correlated with their external morphosyntactic properties of inflecting for plurality, standing in argument positions, and being modified by a determiner and adjective, etc. Specifically, we would not categorize them as verbs even though they internally contain the verb roots *build* and *shoot*, as in [[[build]<sub>V-ing</sub>]<sub>NMLZ</sub>]<sub>N</sub> and [[[shoot]<sub>V-ing</sub>]<sub>NMLZ</sub>]<sub>N</sub>. On the other hand, we would categorize forms like [[[sing]<sub>V-er</sub>]<sub>NMLZ</sub>]<sub>N</sub> and [[[left field]<sub>N-er</sub>]<sub>NMLZ</sub>]<sub>N</sub> similarly as noun despite the difference in the internal properties, because their external properties are exactly alike. The structure [that [John recklessly shoots trespassers]] in an expression like [*That John recklessly shoots trespassers*] *is well known* denotes an abstract entity of fact, like

<sup>24</sup> Comrie and Horie (1995) tell us that relative clauses are no different from ordinary sentences with an anaphoric gap, without taking seriously the crucial fact that while anaphoric gaps can be filled (somewhat redundantly) by a pronoun, RC gaps cannot be in Japanese and other languages. Neviss, Pesetsky, and Rodrigues (2009) tell us that “[a] verb may merge with **a sentence**, as in *Mary thinks [that the world is round]*” (p. 366; emphasis added), while they think elsewhere (p. 363) that the similar structure [that a boat is coming] is a clause in *Y said that a boat is coming*.

a noun *fact* denotes an abstract entity concept. It also has an important external syntactic property of heading a subject or object NP, a major hallmark of nominals.

The reason why nominalizations behave syntactically like nouns is because they denote substantive concepts like nouns. Clauses and sentences perform functions different from the entity-denoting function. Clauses complete a predication by ascribing verbal relational concepts to the referent of a subject nominal. The structure [John recklessly shoots trespassers] as a clause ascribes the verbal property of [recklessly shoot trespassers] to the referent of the subject [John]. Sentences, on the other hand, perform different kinds of speech acts such as asserting that the predication made by a clause is true (declarative sentences), questioning whether or not the predication is true (yes-no questions), ordering (imperative sentences), etc. The structure [John recklessly shoots trespassers] is a sentence when it is used in making an assertion about the clausal predication, i.e. when the speaker, by uttering the phonetic content of the structure, performs the speech act of declaring that the predication made in the clause is true. Notice that predication and assertion are two different types of speech acts, which can be clearly separated in yes-no questions. In asking “Does John recklessly shoot trespassers?”, the speaker makes a predication but he does not assert its truth; instead, he asks the hearer to either assert or negate the truth of this predication.

The structure [(that) [John recklessly shoots trespassers]] as a nominalization, on the other hand, bears a function different from the clausal or sentential use of this structure. Nominalization structures neither predicate nor assert. Instead, they presuppose propositions such as *John recklessly shoot trespassers* and *John shot something* (for the nominalization in *I saw [what John shot]*). How one arrives at these presuppositions from the nominalization structures is an interesting question. But grammatical nominalizations generally contain enough materials, as in the examples given here, from which one can construct associated presuppositions. Instead of speech acts of predication and assertion (or some other speech acts), nominalization structures have a function of denoting substantive concepts, as repeatedly noted above. Being nominal, nominalizations may head an NP and function as arguments of clauses and sentences. They do not stand alone like sentences in their capacity as nominal structures. However, nominalizations may become used as sentences when they perform speech acts, such as the expressive act of evincing the speaker’s psychological stance or attitude toward the state of affairs denoted (e.g. an expression of lamentation or surprise).<sup>25</sup> Conversely, sentences/clauses do not function as NP arguments. The only case in which they function as arguments is when it is used as a direct quotation, as in *John said/wrote/boasted, “I am the*

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<sup>25</sup> Notice that nouns also function as a sentence (so-called one-word sentences) when it is used to perform a speech act, as in the act of warning in an utterance like “Fire!”. It is believed that the replacement of Japanese sentences ending in the *Shūshikei* form of a verb by the nominalization structures in the history of Japanese started out with this kind of use of nominalizations as sentences. Cf. the famous example of this from the *Tale of Genji*: *Suzume no ko o Inuki ga nigasi-turu* ‘Inuki let my baby sparrow escape (shucks!)’, which ends in the nominalized form of the perfective suffix.



*greatest of all!*”. In this way, grammatical constructions – sublexical morphemes, words, as well as larger phrasal units – are defined in terms of their functions and morpho-syntactic properties, not by morphology or formal similarities to other structures.

#### 4.2.5 Nominalization particle *no*<sup>26</sup>

The grammar of nominalizations in most modern Japanese dialects has evolved from that of Classical Japanese via two prominent historical changes. One is the merger of nominalized verbal forms and their finite counterparts, as already discussed. The other is the rise of so-called *Juntaijoshi* (nominalization particle) starting in the late sixteenth century in the case of central dialects, which began to use the particle *no* to mark one use of grammatical nominalizations. Many other, but not all, dialects have also developed similar particles for this function; *to* or *tu* in Kyūshū, *so* or *ho* in Yamaguchi prefecture, *ga* in Hokuriku (Toyama and Ishikawa prefectures) and Kōchi prefecture in Shikoku, the compound form *ga-n* in Niigata prefecture, *yazu* and its variants in Akita, etc. While the term *Juntaijoshi* itself is non-committal to its function, many scholars consider these particles to be nominalizing particles or nominalizers that create nominalization structures (Horie 2008, Frellesvig 2010, etc.). That these particles are actually independent from the nominalizing process is clearly seen from the data in those dialects that have not developed such particles, as in the Izumo dialect seen above (see (15)), where nominalizations occur without a particle.

There is one verbal form in many varieties of Modern Japanese that distinguishes between the finite and the nominalized form. It is the copula *da* that supports predication by a nominal adjective or adjectival noun, whose finite form is *da* and whose nominalized form is *na*. Observe the following, where we can clearly see that the nominalization structure in (20c) obtains independently from the particle *no*:

- (20) a. *Ano hana wa kirei da.*  
           that flower TOP pretty COP  
           ‘That flower is pretty.’
- b. *Ano [kirei na]<sub>NMLZ</sub> no o katte.* (NP-use)  
           COP       PRT ACC buy.GER  
           ‘Buy (me) that pretty one.’
- c. *Ano [kirei na]<sub>NMLZ</sub> hana o katte.* (Modification-use)  
           ‘Buy (me) that pretty flower.’

<sup>26</sup> Beside *no*, there are many other particles that mark the NP-use of nominalizations including *koto*, *yatu*, *kata*, and so-called *Keishiki meishi* (formal noun). This chapter focuses on the most versatile marker *no*, which marks both event and argument nominalizations. The other markers are limited in their use, either to event or argument nominalizations, and have additional functions such as marking the semantics of event nominalization (as in the case of *toki* ‘time’, *tokoro* ‘place’, *wake* ‘reason’, etc.) or indicating the speaker’s attitude toward the denotations of argument nominalizations (cf. the difference among *aruite iru no* ‘one walking’ (plain), *aruite iru kata* (honorific), and *aruite iru yatu* (rough/derogative)).

The usage pattern of nominalizations above shows that the so-called *Juntaijoshi* occurs only when nominalizations are used as NP-heads, as in (20b), and that it is not really a nominalizing particle.<sup>27</sup> Its true function is to mark the referential use of nominalizations as the heads of NPs. The historical fact that this *no* first developed in the NP-use of argument nominalizations corroborates this conclusion. Argument nominalizations tend to denote concrete things that play a referential function in discourse more readily than abstract concepts such as events and facts that event nominalizations denote.<sup>28</sup>

A tantalizing question now emerges regarding the connections between the markers of NP-use of nominalizations, *Juntaijoshi*, across different dialects (*no/n*, *ga*, *ga-n*, *to/tu*, *so/ho*) and the so-called genitive particles found in possessive constructions, e.g. *Takasi no hon* ‘Takashi’s book’ *ore-n ti* ‘my house’ in modern central dialects, *nusi ga musuko* ‘your son’ in the Kumamoto dialect, and Classical Japanese forms *Hitomaro ga uta* ‘Hitomaro’s poems’ and *oki tu siranami* ‘white waves of the open sea’.<sup>29</sup> The exploration of this question will lead us to recognize another type of nominalization, namely nominal-based nominalizations, which would obviate the need for the so-called genitive particles and which would answer the question posed above.

### 4.3 Nominal-based grammatical nominalizations

The genitive case, with which the so-called possessive particle *no* in Japanese is identified, is an odd case since grammatical cases, such as nominative and locative, in general, express grammatical or semantic relations between an NP and the verb of a sentence.<sup>30</sup> The constructions containing *no*-mediated NPs are also problematic

27 A true nominalizing particle/nominalizer occurs in both NP- and modification-use. Compare the occurrence of *no* in (20b–c) and that of the Mandarin Chinese nominalizing particle *de*, which occurs in all the contexts in which an argument nominalization is used, e.g. [*Ø zài nàr diào yú*]=*de* (*shì Xiǎo Wáng*)] ‘The one fishing over there (is Little Wang)’ (NP-use) and [*Ø zài nàr diào yú*]=*de* *hái-zi* (*shì Xiǎo Wáng*)] ‘The child who is fishing over there (is Little Wang)’ (modification-use).

28 There is a cross-dialectal pattern that matches this historical development of the marker of the NP-use of grammatical nominalization. In central dialects, *yatu* marks only the NP-use of argument nominalization (e.g. *boku ga katta yatu* ‘the one that I bought’), but in Akita dialects, the cognate forms *yazu*, *yazi*, *yati*, *yeti*, *azi*, *zi* mark the NP-use of both argument and event nominalizations. Cf. *dekkee yazi hosi* ‘(I) want a big one’, *kono kasa ore yazi da* ‘This umbrella is mine’, *Taroo kuru yazi mattera* ‘(I) am waiting for Taro to arrive’ (from author’s field notes on the Akita dialect spoken in Tsunodate City dated June 8, 2014). See Shibatani and Shigeno (2013) on the spread of *Juntaijoshi*.

29 See the similar connection in the Mandarin Chinese nominalizer *de* seen in footnote 27 and the marker of a possessive construction, e.g. *wǒ de shū* ‘my book’. Matisoff (1972) was among the early researchers who had noticed this connection in Mandarin, Japanese, and Lahu, though he had no explanation for it.

30 Vocative is another such case that does not express the NP-verb relationship. See Teramura (1999) on further discussions on this point.

because the meaning relationships between the two NP constituents vary considerably, as can be seen in *Takesi no hon* ‘Takeshi’s book’, *Hanako no syasin* ‘Hanako’s photo’, *Koronbusu no sin-tairiku no hakken* ‘the discovery of a new continent by Columbus’, *niwa no ki* ‘a garden tree’, *kinu no syatu* ‘a silk shirt’, *Hanako no nasu no tukemono* ‘Hanako’s eggplant pickles’, etc. Do we have a single *no* here, and what is the role of one or possibly more than one *no* involved here in determining these varied meanings? We explore these problems in terms of a nominalization process, the one that applies to a nominal structure yielding another nominal structure whose meanings are metonymically motivated as in the case of verbal-based nominalizations studied above. In an introductory section of this article, we have seen that lexical nominalizations apply to nouns as well. Once this possibility is duly recognized, it should come as no surprise that grammatical nominalization may also apply to nominal structures. Our proposal below is to reanalyze the expressions of so-called genitive case (such as *his*, *John’s* and *Takesi no*) as nominal-based grammatical nominalizations and altogether do away with the genitive case, or the category of *Zokkaku joshi* (genitive particle) in Japanese (and elsewhere).

Let us first observe how the two instances of the expression *Kawabata no* is understood below:

- (21) *Sono koro, bungaku syoonen no<sup>31</sup> muzyakisa de, syoosetuka nizyuunin*  
 that time literary boy GEN innocence at writer twenty.CLF  
*gurai no zyuusyo o Bungaku-nenkan de sirabe,*  
 about GEN address ACC literary-yearbook in check  
*nengazyoo o, dasita koto ga attaga tosi ga*  
 new.year.greeting.card ACC mailed that NOM was.but year NOM  
*akete henzi ga kita no wa, Kawabata Yasunari to*  
 dawn.GER reply NOM came PRT TOP Kawabata Yasunari and  
*Konuma Tan dake datta. **Kawabata no** wa hondana ni*  
 Konuma Tan only was Kawabata GEN TOP bookcase on  
*kazari, Konuma no wa mune ni daite neta.*  
 decorate.GER Konuma GEN TOP bosom in hold.GEN slept

“At that time, out of the innocence of a literary youth, (I) found out the addresses of about twenty writers, and sent new year’s greeting cards. At the New Year’s start, the ones from whom replies came were only Kawabata Yasunari and Konuma Tan. **Kawabata’s** was displayed on the bookshelf and Konuma’s was held to my bosom while (I) slept.”

(KUZE Mitsuhiko *Hito koishikute – yohaku no ōi jūshoroku*)

<sup>31</sup> Despite our new analysis of this type of *no* as nominalizer, we continue to gloss it as GEN for the sake of simplicity. Likewise, we continue to gloss the *Juntaijoshi no* as PRT (particle).

- (22) *Zannen nangara Tookyoo Jihen no Yukiguni ga*  
 unfortunately though Tokyo Incidents GEN Yukiguni NOM  
*Kawabata no o isikisite tukurareta toyuu meikakuna bunsyoo*  
 Kawabata GEN ACC consciously was.made that clear sentences  
*o mita koto ga nai no desu ga, hon yondete kyoku*  
 ACC saw that NOM not PRT COP NOM book reading.GER music  
*kikuto, Kawabata no Yukiguni no koto sika omoemasen.*  
 listen.to Kawabata GEN Yukiguni GEN thing only cannot.think  
 “Unfortunately (I) have not seen any piece of clear writing that *Yukiguni* of the Tokyo Incidents [a vocal group] was composed with a conscious awareness of **Kawabata’s**, but when I read the book and listen (to the music) carefully, I can only think of Kawabata’s *Yukiguni*.” (<http://bungeiclub.exblog.jp/>)

The expression *Kawabata no* in these excerpts does not denote/refer to the author named Kawabata. Furthermore, what the expression denotes and refers to differ between the two contexts. In the first passage, *Kawabata no* is understood to be denoting things connected to the author Kawabata Yasunari, and the context suggests that the expression is used to refer specifically to the New Year’s greeting card or the reply connected to Kawabata, namely the one connected in terms of the authorship and its product. In the second passage, the same expression is used to refer to Kawabata’s novel *Yukiguni* (*Snow country*). It is clear from this that a form such as *Kawabata no* functions in exactly the same way as many of the regular metonymic expressions and verbal-based grammatical nominalizations, denoting a variety of things that have intimate connections with the literal denotations of the base forms, out of which the denotation most relevant to the context is chosen.<sup>32</sup>

Instead of viewing constructions like *Kawabata no* as arising from deletion of the head noun (*Kawabata no henzi* → *Kawabata no*) or positing a pronominal *no*,<sup>33</sup> we are proposing to analyze *no* seen here (or so-called genitive forms in general) as a nominalizer that turns a nominal expression into another with a new denotation, the one essentially denoting entities that are in close association with the denotation of the nominal base-form. The notion of possession associated with the genitive case form is a prominent instance of the denotation property of the nominal-based nominalization, as seen in the use of *John’s* in *This toy is John’s* or *John’s is more expensive than Bill’s toy*. These examples and the following Japanese examples show that nominal-based grammatical nominalizations also have two major uses, like verbal-based grammatical nominalizations.

<sup>32</sup> Cf. Matsushita (1930: 246): “When one says *Zibun no wa nai ga hito no ga aru* ‘Mine does not exist but others’ exists’ in Tokyo speech, *zibun no* ‘mine’ and *hito no* ‘others’ mean ‘my thing’ and ‘others’ thing’ and they are “nominal re-nouns” (名詞性再名詞) [nominal-based nominalizations?].” (my translation)

<sup>33</sup> See 4.2.2 for an argument against such an analysis.

## (23) a. NP-use

*Ano sakuhin wa [[Kawabata no]<sub>NMLZ</sub>]<sub>NP</sub> o manete iru.*  
 that work TOP Kawabata NMLZR ACC imitate be  
 ‘That work imitates Kawabata’s.’

## b. Modification-use

*[[Kawabata no]<sub>NMLZ</sub> sakuhin]<sub>NP</sub>*  
 Kawabata NMLZR work  
 ‘Kawabata’s work’

Notice that unlike the marker of an NP-use of verbal-based nominalizations (the *Juntaijoshi no*) discussed in section 4.2.5, the **nominalizing no** discussed here occurs in all contexts of use, in both NP- and modification-use, just like the nominalizing particle *de* in Chinese (see footnote 27). Understanding the rise of the marker for the NP-use of nominalizations – how it is connected to the nominalizing *no* (and *ga*), and how its marking pattern develops – is essential in seeing that our analysis of the genitive as a nominal-based nominalization is also supported by morphological evidence.<sup>34</sup>

## 5 From the nominalizers *no/ga* to the *Juntaijoshi*

It is well known that in Classical Japanese there were two particles, *no* and *ga*, which, according to our analysis, functioned as nominalizers for nominals. NP- and modification-uses of the structures nominalized by these particles are shown below:

## (24) NP-use

- a. *Kususi wa tune no mo aredo marahito no ima no*  
 medicine.man TOP past GEN also exist.but visitor GEN present GEN  
*yakusi tootokarikemu medasikarikeri.*  
 Bhaisajyaguru noble worthy.of.praise  
 ‘As for medicine men, there are ones from the past, but the presently  
 visiting Bhaisajyaguru is noble and worthy of praise.’ (*Bussokuseki no uta*)
- b. *Kara no mo Yamato no mo kakikegasi*  
 Chinese GEN also Japanese GEN also write.away  
 ‘having written away Chinese ones as well as Japanese ones’  
 (*Genji Monogatari* · Aoi)

<sup>34</sup> Chinese and some other languages (e.g. Nepali) show a more direct connection between nominal-based nominalizations (*wǒ de shū* ‘my book’) and verbal-based nominalizations, both of which involve the same nominalizer *de*. Cf. the *de* marking in verbal-based nominalizations in footnote 27.

- c. *Kono uta wa aru hito no iwaku Kakinomoto*  
 this poem TOP certain person GEN say Kakinomoto  
*Hitomaro ga nari.*  
 Hitomaro GEN COP

‘This poem, a certain person says, is Kakinomoto Hitomaro’s.’

(*Kokin Wakashū*, Vol. 13)

(25) Modification-use

- a. *Huzi no takane*  
 Fuji GEN high.peak  
 ‘Mt. Fuji’s high peak’

(*Man’yōshū*)

- b. *aru hito no ke no ana*  
 certain person GEN hair GEN hole  
 ‘a certain man’s hair’s hole’

(*Taketori Monogatari*)

- c. *Onore ga gei no masaritaru koto o yorokobu*  
 self NOM ability GEN superior that ACC be.glad  
 ‘be glad about one’s ability being superior’

(*Tsurezuregusa*)

- d. *Kono uta wa aru hito no iwaku Kakinomoto*  
 this poem TOP certain person GEN say Kakinomoto  
*Hitomaro ga uta nari.*  
 Hitomaro GEN poem COP

‘This poem, a certain man says, is Kakinomoto Hitomaro’s poem.’

(*Kokin Wakashū*, Vol. 9)

As early as the tenth century, these nominalizing particles have been used to mark the NP-use of nominal-based nominalizations, and have gradually established themselves as obligatory markers (*Juntaijoshi*), as attested in the following examples.

(26) Marking of NP-use of nominal-based nominalizations

- a. *Hitozuma to [wa ga] no hutatu omouni hanarekosi*  
 man’s.wife and I GEN PRT two think leave.behind  
*sode wa awaremasereru.*  
 sleeve TOP exceedingly.sad

‘As I think about both a man’s wife and mine, the sleeves left behind are exceedingly sad.’

(*Yoshitadashū*, 10th C)

- b. *Kokin no tyooka, [Ise ga] no ga sugurete omosiroi to yuu nari.*  
 Kokin GEN long.poem Ise GEN PRT NOM very interesting that say EVI  
 ‘Of the long poems of Kokin, Ise’s are said to be very interesting.’

(*Jiteiki* 17th C)

- c. *Kore syooben wa sukunoo temo, [kotitora ga] no wa,*  
 this.one urine TOP little though I GEN PRT TOP  
*siromono ga eiwai.*  
 thing NOM good.FP

‘This one, though pee is little, mine is a good thing.’

(*Tōkaidōchū Hizakurige* 19th C)

Notice that the *no* marking the bracketed N-based nominalizations above only occurs when these nominalizations are used as an NP-head at this stage.<sup>35</sup>

As for modern dialects, Matsushita (1930: 246) notes the following forms,<sup>36</sup>

- (27) a. [*zibun no*] **no** (Tōkaidō area)  
 self GEN PRT  
 ‘mine’

- b. [*zibun ga*] **no** (Tōhoku)  
 self GEN PRT  
 ‘mine’

- c. [*zibun no*] **ga** (Shikoku)  
 self GEN PRT  
 ‘mine’

and then remarks that “in Shikoku *ga* becomes a formal noun [*Juntaijoshi*]. With this, it can be conjectured that the [*Juntaijoshi*] *no* developed out of the [genitive/nominalizing particle] *no*.”

A fuller picture of the use of N-based nominalizations in the Tosa dialect in Shikoku is as in (28). What is crucial to our claim that these forms are nominalizations is the fact that exactly the same marking pattern obtains in the use of verbal-based nominalizations, as a comparison between (28) and (29) below shows.

- (28) Tosa dialect (Kōchi Pref. Shikoku; Field notes)<sup>37</sup>  
 (Nominal-based nominalization)

- a. [[*watasi no*]<sub>NMLZ</sub> *kasa*]<sub>NP</sub> *wa kore ya kendo* (Modification-use)  
 I GEN umbrella TOP this COP while  
 ‘While my umbrella is this,’

<sup>35</sup> There are modern dialects, like the Toba dialect in the Mie prefecture, in which the marking pattern here has spread to the modification context (e.g. [*Takeo ga no*] *hon*) ‘Takeo’s book’. See Shibatani and Shigeno (2014) on the cyclic development of the marking pattern in the two use contexts in Ryukyuan languages.

<sup>36</sup> See Shibatani and Nitta (forthcoming) for a fuller picture of the dialectal forms and patterns of nominalization markers.

<sup>37</sup> The parallel pattern in the use of *ga* as the marker of NP-use of nominal based nominalizations is also seen in Hokuriku (Ishikawa and Toyama Prefectures).

- b. [[sensei no]<sub>NMLZ</sub> **ga**]<sub>NMLZ'</sub>]<sub>NP</sub> wa att<sub>i</sub> no **ga** ze. (NP-use)  
 teacher GEN PRT TOP that GEN PRT FP  
 'the teacher's is that one.'

(29) Tosa dialect (Verbal-based nominalization)

- a. [[asoko ni tattyuu]<sub>NMLZ</sub> kodomo]<sub>NP</sub> (Modification-use)  
 there at standing child  
 'child who is standing there'
- b. [[[Asoko ni tattyuu]<sub>NMLZ</sub> **ga**]<sub>NMLZ'</sub>]<sub>NP</sub> wa uti no ko da. (NP-use)  
 there at standing PRT TOP house GEN child COP  
 'The one standing there is our child.'

Exactly the same parallel pattern between N-based and V-based nominalizations is seen in other dialects that have fully developed a marker for the NP-use of nominalizations as in the above Tosa pattern and the pattern, seen below, involving *to*, believed to be related to the old genitive/nominalizing particle *tu*.

(30) Hakata dialect (Fukuoka Pref., Kyushu; courtesy of Takanori Hirano)  
 (Nominal-based nominalization)

- a. [[ore no]<sub>NMLZ</sub> hon]<sub>NP</sub> (Modification-use)  
 I GEN book  
 'my book'
- b. Sore, [[ore n/no]<sub>NMLZ</sub> **to**]<sub>NMLZ'</sub>]<sub>NP</sub> bai. (NP-use)  
 that I GEN/GEN PRT FP  
 'That (one), it's mine.'

(31) Hakata dialect (Verbal-based nominalization)

- a. [[anko ga haittoo]<sub>NMLZ</sub> moti]<sub>NP</sub> (Modification-use)  
 bean.paste NOM contain rice.cake  
 'the rice cake that contains bean paste'
- b. Moti wa [[anko ga haittoo]<sub>NMLZ</sub> **to**]<sub>NMLZ'</sub>]<sub>NP</sub> ga yoka. (NP-use)  
 rice.cake TOP bean.paste NOM contain PRT NOM good  
 'As for the rice cake, the one that contains bean paste is good.'

The historical evidence (see (26a)) indicates that the development of *Juntaijoshi* as markers of the NP-use of nominalizations in central dialects started out with marking N-based grammatical nominalizations as early as the tenth century. Marking of V-based grammatical nominalizations in NP-use started only in the late sixteenth



century. But our point is that the fact of the spread of the marking pattern from one type of construction to another is strong evidence that the two are of the same general type, namely a family of nominalization constructions in our case.<sup>38</sup>

What about the Tokyo Japanese pattern, where a *Juntaijoshi* seems missing in the NP-use of N-based nominalization, as observed in (32b) below?

(32) Tokyo Japanese

(Nominal-based nominalization)

- a. [[*Takao no*]<sub>NMLZ</sub> *hon*]<sub>NP</sub> (Modification-use)

Takao GEN book

‘Takao’s book’

- b. [[*Takao no*]<sub>NMLZ</sub>]<sub>NP</sub> *wa are da.* (NP-use)

TOP that COP

‘Takao’s is that one.’

(33) (Verbal-based nominalization)

- a. [[*Takao ga katta*]<sub>NMLZ</sub> *hon*]<sub>NP</sub> (Modification-use)

Takao NOM bought book

‘the book which Takao bought’

- b. [[*Takao ga katta*]<sub>NMLZ</sub> *no*]<sub>NMLZ</sub>]<sub>NP</sub> *wa are da.* (NP-use)

PRT TOP that COP

‘What Takao bought is that one.’

Recall what Matsushita (1930: 246) had to say about the relevant form in the vicinity of the Tōkaidō (cf. 27a). That is, Tokyo Japanese may have also involved *Juntaijoshi no*, as *Takesi no no* in the pattern of (32b) in an earlier stage. Indeed, we find quite a few such examples in the memoir of NATSUME Sōseki by his wife.<sup>39</sup>

<sup>38</sup> This historical development pattern, the spread of *Juntaijoshi* from nominal-based to verbal-based nominalizations, is also seen as a synchronic pattern. Thus in northern Ryukyuan dialects of Okinawan Island marks the NP-use of nominal-based nominalization with *mun*, but it has not spread to verbal-based nominalizations yet. Southern Ryukyuan dialects, on the other hand, have extended the marking pattern to verbal-based nominalizations. See Shibatani and Shigeno (2013) on this and other points about the development of *Juntaijoshi* in Ryukyuan languages.

<sup>39</sup> NATSUME Kyōko (1877–1963) was born in Hiroshima but presumably grew up in Tokyo, where her father was a senior official of the Upper House of the Imperial Diet. MATSUOKA Yuzuru (1891–1969), a writer and Sōseki’s son-in-law, who transcribed and edited *Sōseki no omoide* (Sōseki memoir), was born in Niigata but spent his adult life in Tokyo. The page numbers after the examples are from the Bunshun Bunko version of *Natsume Sōseki no omoide* (1994), which is a reproduction of the original version published by Kaizōsha in 1928.

(34) *Sōseki no omoide* (Sōseki memoir)

- a. *boosi nasi de wa to yuu node, tomokaku itizi sinogi ni*  
 hat without at TOP that say because anyway temporarily  
*[Natume no] no o kabutte okaeri o negau*  
 Natsume GEN PRT ACC wear.GER going.home ACC ask  
*koto ni simasita* (p. 157)  
 that at did  
 ‘because (he) said (it wouldn’t do) without a hat, I asked (him) to go home wearing Natsume’s temporarily.’
- b. *[anata no] no wa osieru yori sikaru hoo ga ooi* (p. 367)  
 you GEN PRT TOP teach than scold side NOM more  
 ‘Yours is more on the side of scolding than teaching.’
- c. *[watasi no] no to ii, Nakamura-san no baai to ii* (p. 384)  
 I GEN PRT that say Nakamura-Mr GEN case that say  
 ‘speaking of mine, (and) speaking of Mr. Nakamura’s case’
- d. *[mae no] no wa Natume ga kononde kaita ku nano*  
 former GEN PRT TOP Natsume NOM fondly wrote poem because  
*de* (p. 388)  
 COP.GER  
 ‘Because the former was one that Natsume wrote fondly’

It is thus highly likely that the Tokyo dialect also once had the  $[[\text{Takesi no}]_{\text{NMLZ}}\text{-no}]_{\text{NMLZ}}]_{\text{NP}}$  pattern when an N-based nominalization headed an NP. This form then got reduced to the modern form as seen in (32b) due perhaps to avoiding a *no-no* doubling.<sup>40</sup> Here again we can clearly see that the nominalizing particle *no* and the *Juntaijoshi no* are different – the latter only occurring in the context of an NP-use of nominalization –, though the two are clearly related historically.

## 6 Beyond the “genitive subject” and *ga/no* conversion

Besides the use in so-called possessive constructions seen above, where the head noun is a noun (phrase), nominal-based nominalizations marked by *no* (and *ga* in

<sup>40</sup> Cf. Osaka forms:  $[[\text{boku no}]_{\text{NMLZ}} \text{hon}]_{\text{NP}}$  ‘my book’,  $[[\text{boku no}]_{\text{NMLZ}}\text{-n}]_{\text{NMLZ}}]_{\text{NP}}$  ‘mine’;  $[[\text{boku ga koota}]_{\text{NMLZ}} \text{hon}]_{\text{NP}}$  ‘the book which I bought’,  $[[\text{boku ga koota}]_{\text{NMLZ}}\text{-n}]_{\text{NMLZ}}]_{\text{NP}}$  ‘(that) which I bought’.



syntactic subjects, likely because clauses supposedly have subjects. But no evidence (or a definition for the clause) has been offered that the relevant structures are clauses and/or that the *no*-marked NPs in them are syntactic subjects. The strongest motivation for the traditional views appears to be semantic; namely, the relevant *no*-marked NPs denote entities functioning as a protagonist (an agentive participant, a patientive participant, etc.) of the state of affairs denoted by the relevant non-finite structures, just as grammatical subjects do. But that is not enough to establish the subjecthood of *no*-marked NPs, because the same kind of interpretation obtains in constructions like *obaatyan no unten* ‘Grandma’s driving’ and *kodomo no seityoo* ‘the child’s growth’, which certainly are not clauses.<sup>43</sup>

There are two additional structures that contain *no*-marked NPs similar to the ones being considered here that go beyond the notion of genitive subject or the situations that *ga/no* conversion covers. These are illustrated below, where *no*-marked NP appears to correspond to an *o*-marked object noun phrase.

- (38) a. [*nasu o nita*] *no o tabeta*  
 eggplant ACC PRT ACC ate  
 ‘ate the cooked stuff resulting from cooking eggplants’
- b. [*nasu no nita*] *no o tabeta*  
 GEN  
 ‘ate the cooked stuff, which was an eggplant’
- (39) a. *yamabato wa [mame o maku] syun o yoku*  
 mountain.dove TOP bean ACC sow high.season ACC well  
*kokoroete ite...*  
 understand be.GER  
 ‘the mountain doves, knowing well the best time of the season for sowing beans, ...’
- b. *yamabato wa [mame no maku] syun o yoku kokoroete ite...*  
 GEN  
 ‘the mountain doves, knowing well the best time of the season for sowing beans, ...’ (MIZKUKAMI Tsutomu *Tsuchi o kuu hibi*, 1982)
- (40) a. [*yuki o kabutta*] *Takayama-renpoo ga kasukani mieta*  
 snow ACC covered Takayama-range NOM vaguely visible  
 ‘the Takayama-range, which was covered by the snow, was vaguely visible’

<sup>43</sup> There is a proposal for analyzing so-called possessor NPs of possessive constructions as subjects. We reject such a proposal (see Shibatani, Chung, and Bayaerduleng 2014).

- b. [*yuki no kabutta*] *Takayama-renpoo ga kasukani mieta*  
 GEN

‘the Takayama-range, which was covered by the snow, was vaguely visible’  
 (MIYAMOTO Teru *Ten no yakyoku*, 2005)

Expressions such as [*mizu no maku*] *oto* ‘the sound of the spraying of water’ have been noticed before but have been thought to be sporadic in their occurrence, as earlier studies on this topic generally maintain that *o* does not convert to *no* (Harada 1971, Shibatani 1975, and others). As it turns out, very many similar expressions turn up in Google searches, often even with two *no*-marked NPs, as in (43).

- (41) a. [*piano no hiku*] *no ga zyoozu desu*  
 piano GEN play PRT NOM good COP  
 ‘good at playing the piano’  
 ([https://www.sendai-sensei.com/...](https://www.sendai-sensei.com/.../))
- b. [*mizu no maku*] *no taihen dayoo*  
 water GEN spray PRT hard COP.FP  
 ‘It is tough to spray water.’  
 ([ex14.vip2ch.com/test/read.cgi/news4ssnip/1369153804](http://ex14.vip2ch.com/test/read.cgi/news4ssnip/1369153804))
- c. *yaku mae ni [kinako no mabusu] no mo osusume*  
 bake before at soy.flour GEN cover PRT also recommending  
 ‘it is recommended also to cover with soy flour before baking’  
 ([https://twitter.com/\\_kaze\\_mama\\_2/status/7146057464706662400](https://twitter.com/_kaze_mama_2/status/7146057464706662400))
- d. [*kami-no-ke no arau*] *no mo zyuyyoo dakedo*  
 head.hair GEN wash PRT also important COP.though  
 ‘important to also to wash the hair, but’  
 ([detail.chiebukuro.yahoo.co.jp](http://detail.chiebukuro.yahoo.co.jp) › ... ›)
- e. [*kao no siranai*] *no ga hosyoo ni tatte ita.*  
 face GEN know.NEG PRT NOM guard as stand was  
 ‘one, whose face (I) didn’t know, was standing on guard’  
 ([www.scn-net.ne.jp/~grakam/dairen-horyo.htm](http://www.scn-net.ne.jp/~grakam/dairen-horyo.htm))
- (42) a. [*piano no hiku*] *hito*  
 piano GEN play person  
 ‘person who plays the piano’  
 ([www.seiwa-gakki.co.jp/services/services\\_index/](http://www.seiwa-gakki.co.jp/services/services_index/))
- b. [*kinako no mabusita*] *ohagi*  
 soy.flour GEN covered bean.cake  
 ‘bean cake that (one) has covered with soy flour’  
 (<http://plaza.rakuten.co.jp/okaru100/diary/2005032000000/>)

- c. [*wadaiko no tatau*] *doosa*  
 Japanese.drum GEN beat motion  
 ‘motion of the beating of the Japanese drum’  
 (<https://www.youtube.com/watch?v=bMkXI01qkFY>)
- d. [*kimono no tatamu*] *hoohoo*  
 kimono GEN fold method  
 ‘the method of folding Japanese kimono’  
 ([ameblo.jp/4daime-you/entry-11955123479.html](http://ameblo.jp/4daime-you/entry-11955123479.html))
- e. [*kao no siranai*] *aite to tanosiku kaiwa site...*  
 face GEN know.NEG partner with happily conversation do.GER  
 ‘happily having a conversation with a partner whose face (I) didn’t know’  
 ([www.beittikva.net/2012/06/post.html](http://www.beittikva.net/2012/06/post.html))
- (43) a. [*Umai hito no taiko no tatau*] *no wa zutto mitete*  
 skillful person GEN drum GEN beat PRT TOP continuously see.GER  
*mo akinai desu.*  
 even bored.NEG COP  
 ‘(you) won’t be bored even if you continuously looked at a skillful person’s  
 beating of the drum.’  
 ([hatotetsu.blog89.fc2.com/blog-entry-619.html](http://hatotetsu.blog89.fc2.com/blog-entry-619.html))
- b. [*Sensei no piano no hiku*] *oto o yoku kikoo ne.*  
 teacher GEN piano GEN play sound ACC well listen FP  
 ‘Let’s listen to the sound of the teacher’s playing of the piano’  
 ([tanosii-piano-lesson.seesaa.net/article/274792769.html](http://tanosii-piano-lesson.seesaa.net/article/274792769.html))
- c. [*sokudoku o syuutoku sita hito no hon no yomu*] *hayasa*  
 rapid.reading ACC mastering did person GEN book GEN read speed  
 ‘the speed of the person who has mastered rapid reading read a book’  
 ([ameblo.jp/renn0120/entry-11935933238.html](http://ameblo.jp/renn0120/entry-11935933238.html))
- d. [*baatyan no kuruma no unten-suru*] *supiido*  
 grandma GEN car GEN driving-do speed  
 ‘the speed of the grandma’s driving of a car’  
 (<https://twitter.com/zyousouuaruaru>)
- e. [*otto no sake no nomu*] *ryoo*  
 husband GEN wine GEN drink amount  
 ‘the amount of the husband’s drinking of Japanese wine’  
 ([suzukey.com/QandA/view.php?question\\_id=11146215246](http://suzukey.com/QandA/view.php?question_id=11146215246))

While speakers' reactions to these forms may vary, from "acceptable" to "dubious", the high frequency of occurrence of the structural patterns above can no longer be brushed aside as sporadic if one's goal is a descriptively adequate account. Now, are we to recognize *no*-marked objects or *o/no* conversion? But then we would fail to capture the semantic parallelism between these forms and noun-headed expressions like the ones below, which illustrate a more well-established noun modification pattern than those in (43).

- (44) a. [*baatyan no kuruma no unten*] (cf. 43d)  
 grandma GEN car GEN driving  
 'Grandma's driving of a car'
- b. [*Koronbusu no sin-tairiku no hakken*]  
 Columbus GEN new-continent GEN discovery  
 'Columbus's discovery of a new continent'
- c. [*Yamanaka hakusi no Nooberusyoo no zyusyoo*]  
 Yamanaka doctor GEN Nobel.prize GEN receiving  
 'Dr. Yamanaka's receiving of a Nobel prize'

In fact, it is a parallelism like this that has led some to consider that these nominal structures also have subjects (and objects?)<sup>44</sup>. An effort to capture cross-constructional meaning similarities of this kind is laudable. However, the range of semantic relations seen in the relevant constructions far exceeds what can be captured in terms of the syntactic arguments of subject and object. Besides those relations paralleling what can be expressed by syntactic adjuncts, as in (45), there are many *no*-marked modifiers, as in (46), that cannot be understood in terms of clausal arguments or adjuncts in a natural way.

- (45) *hana (e) no mizuyari* 'water-giving to flower', *sima (de) no kurasi* 'living on the island', *satoo (de) no azituke* 'seasoning with sugar', *Hiroko (kara) no tegami* 'letter from Hanako'
- (46) *ringo no kago* 'basket for apples', *kodomo no byooiin* 'child's hospital', *eigo no kyookasyo* 'textbook for English', *sakura no kisetu* 'cherry (-blossom) season', *sakura no meisyo* 'famous spot for cherries', *hana-mi no kyaku* 'flower-viewing visitors', *huyu no kotoo* 'winter coat', *Huransu no wain* 'wine made in France', *nikai no kyaku* 'customers upstairs', *nyuusi no benkyoo* 'study for an entrance exam', *kenkoo no hiketu* 'secret for health'

<sup>44</sup> See footnote 43.

The nominalization analysis of *no* proposed here aspires to account for the meanings of all these *no*-marked NPs uniformly as a function of the nominalization process producing NP-*no* structures that denote various entities and state of affairs with which base NPs hold a metonymic relation. But let us first look at the structural patterns of the modification constructions headed by a grammatical nominalization. First, notice that V-based grammatical nominalizations come in a range of syntactic complexity ranging from ones based on a V alone, those corresponding to a VP, and those corresponding to a clause, as below:

- (47) a. *Watasi wa [yomu]<sub>NMLZ</sub> no o yameta.*  
           I           TOP read           PRT ACC stopped  
           ‘I stopped reading.’
- b. *Watasi wa [hon o yomu]<sub>NMLZ</sub> no o yameta.*  
                           book  
           ‘I stopped reading books.’
- c. *Watasi wa [Kenzi ga hon o yomu]<sub>NMLZ</sub> no o zitto mimamotta.*  
                           Kenji   NOM                           PRT ACC steadily watched  
           ‘I steadily watched Kenji read a book.’

Of these, (47a) allows modification by NP-*no* in the manner of (41)–(42) above. While the question of why NP-*no* modifiers corresponding in meaning to the *ga*-marked subjects of intransitive clauses (e.g., *kodomo-tati no hasiru (no)*) are found more frequently and sound more natural than any of the forms in (41)–(42) must be answered,<sup>45</sup> they undoubtedly take after those headed by lexical nouns such as [*sin-tairiku no hakken*] ‘a discovery of the new continent’ and [*kodomo no situke*] ‘disciplining of a child’. We are claiming that this analogy is made possible because the forms in (41)–(42) all have grammatical nominalizations [*hiku*]<sub>NMLZ</sub> ‘playing’, [*maku*]<sub>NMLZ</sub> ‘spraying’, etc. as their heads. Further modification of such forms by another NP-*no* appears also possible, as attested by the examples in (43). This pattern is something unexpected in the past studies since it has generally been believed that the nominalization structure [*hon o yomu*]<sub>NMLZ</sub> (*no/hito*) seen in (47b) cannot be modified by NP-*no* in Modern Japanese (Harada 1971, Shibatani 1975, and others). Again, this wide-spread belief is contradicted by some sporadic examples in literary works and by much more abundant data from Google searches. Observe the following:

<sup>45</sup> It appears that the ease of modification by NP-*no* follows the following pattern: intransitive patientive (*ke no mizikai (inu)* ‘(the dog) that has short hair’) ≥ intransitive agentive (*kodomo no hasiru (sugata)* ‘(the figure) of the child running’) >> transitive patientive (*mizu no maku (oto)* ‘(the sound) of spraying water’) >> transitive agentive (*kodomo no mizu no maku (oto)* ‘(the sound) of a child spraying water’).



- (48) a. *kono myoo na otokoo wa... bonyari [boku no*  
 this strange COP.MNLZ man TOP absentmindedly I GEN  
*sake o nomu] no o nagamete iru.*  
 wine ACC drink PRT ACC look.GER be  
 ‘This strange man is absentmindedly watching me drink Japanese wine.’  
 (AKUTAGAWA Ryūnosuke *Mensua Zoili* 1917)
- b. *Watasi wa soremade [akasia no hana o tukete iru] tokoro*  
 I TOP until.then acacia GEN flower ACC put.on be PRT  
*o mita koto ga nai.*  
 ACC saw that NOM non-existent  
 (Lit.) ‘To me that I saw acacias’ putting on flowers is non-existent until  
 then.’/ ‘I had not seen acacias having flowers until then.’  
 (HORI Tatsuo *Utsukushii Mura* 1934)
- c. *Sinsuke wa atama no naka de [Tae no zibun o miru]*  
 Shinsuke TOP head GEN inside at Tae GEN self ACC see  
*hyoozyoo o omoi-egaita.*  
 expression ACC visualized  
 ‘Shinsuke, in his head, visualized the expression of Tae’s looking at  
 himself (Shinsuke).’ (ITSUKI Hiroshi *Seishun no mon* 1970)
- d. *[Kodaira-sensei no mizu o maku] oto sika kikoenai.*  
 Kodaira-teacher GEN water ACC spray sound only audible.NEG  
 ‘Nothing but the sound of Teacher Kodaira spraying water is audible’  
 ([https://twitter.com/nabe\\_ashikusa/status/561155811892662273](https://twitter.com/nabe_ashikusa/status/561155811892662273))
- e. *[okami-san no obi o simeru] sugata<sup>46</sup> ga dandan*  
 mistress-Miss GEN belt ACC tighten figure NOM gradually  
*sama ni natte kiteiru.*  
 shape.up become coming  
 ‘the figure of the mistress’s tightening of a Japanese belt gradually took  
 shape’ (fakikaku.com/paststage/2002-10-fresh/diary-7.htm)
- f. *[nizyuu-dai no koro no watasi no hon o yomu] ryoo*  
 twenties GEN time GEN I GEN book ACC read amount  
 ‘the quantity of books I read when I was in the twenties’  
 (yukari-akiyama.com/career/2657)

<sup>46</sup> This could be construed as *[okami-san no [obi o simeru sugata]*. But *[okami-san no obi o simeru] oto* seems equally good, which is difficult to construe as *[okami san no [obi o simeru oto]*.

Let us now turn to the semantics of the NP-*no* modifiers. The problem boils down to the question of how to capture the semantic parallelism observed between the two constructions below:

- (49) a. [[*kodomo no*] [*kakekko*]<sub>N</sub>]<sub>N'</sub>  
           child       GEN running  
           'the running of the child'
- b. [[*kodomo no*] [*hasiru*]<sub>NMLZ</sub>]<sub>NMLZ'</sub> (no)  
                               run                               (PRT)  
           'the child's running'

The nominalization analysis we are proposing for the so-called genitive NP-*no* treats such a structure as a nominal that denotes concrete thing-like entities (a toy, a person, etc.) or abstract states of affairs (running, reading a book, etc.) with which the denotation of the base NP is metonymically associated (e.g. for being the owner of an object, for being related as a sibling to a person, or being an agentive protagonist of a state of affairs, being a patientive protagonist of a state of affairs). These specific metonymic relations are based on culturally sanctioned general metonymy schema of the type such as OWNER FOR GOODS (e.g. *asoko no nikuya wa oisii* 'that meat ship is delicious', *kono hon wa Haruo no da* 'this book is Haruo's'), EVENT FOR PROTAGONIST (*hito-gorosi* 'killer', *hi-yatoi* 'laborer employed daily', *hasitte iru (no)* 'one running'), EVENT FOR RESULT (*tataki* 'chopped up *sashimi*', *sakana o ageta (no)* 'fish fry'), etc. (Lakoff and Johnson 1980). Thus, [*kodomo no*]<sub>NMLZ</sub> in both constructions in (49) in principle allow many interpretations that are metonymically sanctioned. Of all the possible interpretations, the ones that denote a subset of the head nominal would be chosen in the case of modification structures. In (49a), the head nominal denotes a running activity. Accordingly, its modifier [*kodomo no*] must denote a state of affairs in which the denotation of the base NP [*kodomo*] is involved as its agentive protagonist.

Instead of accounting for the agentive nature of the NP-*no* modifier [*kodomo no*] of (49b) in term of the syntactic subjecthood, we apply the same analysis we have offered for (49a). The event nominalization [[*hasiru*]<sub>NMLZ</sub> (no)] denotes activities; accordingly, the modifier [*kodomo no*] must denote an activity that specifies a subset of the denotation of the head nominal, namely an activity in which the denotation of the base NP [*kodomo*] is involved as an agentive protagonist. The same account can be offered to the pairs below:

- (50) a. [[*Koronbusu no*]<sub>NMLZ</sub> [[*sin-tairiku no*]<sub>NMLZ</sub> [*hakken*]<sub>N</sub>]<sub>N'</sub>]<sub>N'</sub>  
           Columbus   GEN   new-continent   GEN   discovery  
           'Columbus's discovery of a new continent'

- b. [[*umai hito no*]<sub>NMLZ</sub> [[*taiko no*]<sub>NMLZ</sub> [*tataku*]<sub>NMLZ</sub>]<sub>NMLZ'</sub> (*no*) (cf. 43a)  
 skillful person GEN drum GEN beating (PRT)  
 ‘a skillful person’s beating of the drum’

The head noun [*hakken*] ‘discovery’ in (50a) denotes an event in which an agent and a patient are involved. As such, it allows modification by a structure denoting an event in which either an agent or a patient is involved. The nominalization [*sin-tairiku no*] (new continent NMLZR) may denote an event in which the base NP [*sin-tairiku*] is involved as a patientive protagonist, and thus it can modify the head noun [*hakken*]. The resulting structure [[*sin-tairiku no*] [*hakken*]] also denotes an event in which an agentive protagonist is involved. The nominalization [*Koronbusu no*] may denote an event in which Columbus is involved as an agentive participant, and thus it can modify the structure [[*sin-tairiku no*] [*hakken*]]. The same process yields a similar interpretation for (50b).<sup>47</sup>

We believe that the same account can be offered for other kinds of semantic relations that NP-*no* and the head nominal may have as in (45) and (46). For example, [[*ringo no*] [*kago*]] ‘a basket for apples’ contains a nominalization [*ringo no*] that may denote an object with which the denotation of the base NP [*ringo*] ‘apple’ holds a GOODS FOR CONTAINER<sup>48</sup> metonymic relationship. The container that holds this relationship with apples can certainly specify a subset of the denotation of [*kago*] ‘basket’, allowing the entire [[*ringo no*] [*kago*]] to have the reading ‘a basket for apples’. Similarly, the nominalization [*Huransu no*] ‘France’s’ may denote products based on the PRODUCER FOR PRODUCT schema. Accordingly, it can modify the head noun [*wain*] ‘wine’, since the former can specify a subset of the denotation of the latter. In the next, final section of this paper, we shall explicate the notion of modification, which we tried to illustrate above in terms of the subset relationship between two denotations.

## 7 Beyond the *Uchi no kankei* (internal relation) and *Soto no kankei* (external relation)

Among the literature on Japanese noun-modification constructions, Teramura (1999: 157–320) is one of the most influential, in which he distinguishes two types of modification patterns. Teramura attempts to explicate the difference between so-called restrictive relative clauses and content clauses in terms of the relationship that the

<sup>47</sup> See Shibatani, Chung, and Bayaerduleng (2014) for the reason why the order [*sin-tairiku no*] [*Koronbusu no hakken*]] with the intended reading does not obtain.

<sup>48</sup> Cf. *Aka wain o go hon watte simatta* (red wine ACC five CLF break.GER ended up) ‘I ended up breaking five red wine’.

head noun holds with regard to the modifying structure. The head noun of a relative clause, as in (51a) below, is generally believed to be related to an NP position (indicated by the gap marker) of the modifying structure. Teramura characterizes such a relationship as *Uchi no kankei* (internal relation).

- (51) a. [Takao ga Ø katatta] zizitu o daremo siranakatta.  
 Takao NOM talk.about fact ACC no.one knew  
 'No one knew the fact [which Takao talked about Ø].'
- b. [Takao ga kekkon site ita] zizitu o daremo siranakatta.  
 marry do.GER was fact  
 'No one knew the fact [that Takao had been married].'

In the case of so-called content clauses such as (51b), the head noun is not related to any syntactic position of the content clause. Accordingly, Teramura considers this type of modification construction as exhibiting a *Soto no kankei* (external relation).

Teramura (1999: 195–198) tries to explicate the difference between these two types of modification by using the examples similar to the following pair.

- (52) a. [sanma o yaku] otoko (ga iru)  
 saury ACC grill man NOM exist  
 '(there is) a man who grills a saury'
- b. [sanma o yaku] nioi (ga suru)  
 smell NOM do  
 '(there is) a smell of grilling of a saury'

Teramura (1999: 196) tells us that (52a) obtains by transposing the subject NP of the underlying clause into the head position of the relative clause.

- (53) **otoko** ga sanma o yaku  
 man NOM saury ACC grill  
 'A man grills a saury'  
 → sanma o yaku **otoko**  
 'a man who grills a saury'

In the case of a construction exhibiting an external relation, the head noun and the modifying structure are connected in terms of the content-filling function of the latter. According to Teramura (1999: 196–197), the entire sentence structure of (52b) "contains two descriptive contents" as in (54), and what the modification structure such as the one in (52b) does is to fill the content of the head noun *nioi* 'smell' by its descriptive content, (54b).



What the one uttering (55a) heard was not the descriptive content of the modifying structure, “the tree breaks due to the cold air” or “the tree’s breaking due to the cold air”, as it is the case when one says: “I heard John say the tree breaks due to the cold air”. Compare (55a) and (55b), where the latter describes a situation of someone’s hearing the sound resulting from a branch-breaking event. As is clear from our earlier discussions, this is a case of the resultative nominalization that metonymically denotes a product resulting from an event. The modification structure in (55a) uses this resultative nominalization structure as a modifier, which identifies the head noun as the sound resulting from the event denoted by the nominalization structure (see Teramura (1999: 297). That is, (55a) identifies the denotation of the head noun with that resulting from the tree-breaking event. Likewise, what the one uttering (52b) smelled was the smell identified as that resulting from the grilling of a saury fish.

Teramura’s mistake was to stick to the traditional understanding of the relevant construction as the “content clause”. What Japanese data show is that this type of construction abounds in Japanese and that they go far beyond the typical content clauses in English, demanding an analysis that goes beyond the notion of content-filling, which we consider unsatisfactory even for English. Teramura really should have pursued the other line of explanation that he suggests in the above quotation, namely “in the ‘external relation’ the modifying part expresses [a state of affairs that] ... has some relevance to” the content of the head noun, and should have explicated in what way the modifying nominalization structure is relevant in qualifying the denotation of the head noun, as we have done above.

Teramura’s understanding of restrictive relative clauses is also problematic since the head noun of such relative clauses should not be directly identified with any of the arguments in the modifying structure as Teramura’s account in (53) has it. In our analysis, both restrictive and non-restrictive types of modification involve grammatical nominalizations, but the manners in which the modifying nominalization structure qualifies the denotation of the head noun are different between the two. The head noun of a restrictive relative clause specifies the domain of modification independently from any element of the modifying structure. The larger domain denoting a set of entities specified by the head noun is then restricted to some subset by the denotation of an entity metonymically evoked by the modifying structure. The denotation of the whole restrictive relative clause structure is the intersection of two nominal denotations, one specified by the head noun and the other that restricts this domain to its subset, as in the manner of (56a), where { } represents the metonymically evoked entities.

(56) a.

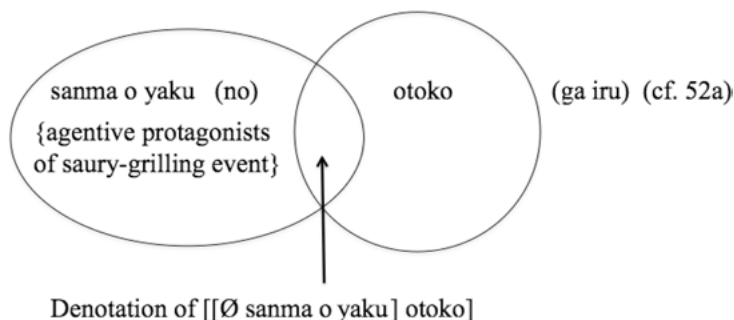


Figure 1: Restrictive Modification

b. *sanma o yaku* {smell}<sup>49</sup> = *nioi (ga suru)* (cf. 52b)

In non-restrictive modification, on the other hand, the denotation of the modifying nominalization structure identifies that of the head nominal, as in the manner of (56b).

Teramura's (1999) ultimate goal appears to come to an understanding of the difference between restrictive modification (56a) and non-restrictive, identifying modification (56b) in terms of the distinction between the "internal relation" and the "external relation". If so, this enterprise fails because there is no one-to-one correspondence between the two. That is, structures holding an internal relation according to Teramura can also be used as identifying modifiers, and those holding an external relation can also be used as restrictive modifiers, as shown below:

(57) a. [*kono* [*sanma o yaku*] *otoko*] *ga Hiroko no titioya sa.*  
 this saury ACC grill man NOM Hiroko GEN father FP  
 'This man who grills a saury is Hiroko's father, you know.'

b. [*sanma o yaku*] *nioi*] *ga itiban kirai na nioi da.*  
 smell NOM most disliked COP smell COP  
 'the smell of grilling a saury is the smell most disliked'

Sentence (57a) might be describing a film-watching event, where the speaker points to the man grilling a saury fish and tells the hearer that this man turns out to be the heroine Hiroko's father. In this context, the structure holding an internal relation

<sup>49</sup> Cf. *Watasi ga kuruu no wa sumibide tyiboon suteeki ga yakeru no o kagu toki da* (taizooo, tumblr.com/post/55712025) 'When I go crazy is when I smell a T-bone steak burning on charcoal fire.' Compared to the visual and auditory senses, the olfactory sense appears more difficult to perceive and makes it more resistant to a metonymic construal. Cf. *I saw John sneak out of the house, I heard John sing in the shower* vs. *\*I smelled John grill a steak in the kitchen*.

with the head nominal according to Teramura does not have a restricting function since there could be a single man in the scene of the film. A possibility like this is well known from studies on English, which allows the same modifying structure in either a restrictive or an identifying function; e.g. *The boys who were given surprise prizes were all overjoyed*; *The boys, who were given surprise prizes, were all overjoyed*. While these two types of constructions, known as restrictive relative and non-restrictive relative, differ in both speech and written form, our claim is that both use the same argument nominalization as a modifier.

Sentence (57b), as an utterance in a situation where various kinds of smell are discussed, illustrates the possibility that a modifying structure holding an external relation according to Teramura can also be used in a restrictive function.

As his discussion of Jespersen's example *The industrious Japanese will conquer in the long run* shows, Teramura (1999: 254) is well aware that a distinction between restrictive and non-restrictive modification obtains where the contrastive notion of "external relation" and "internal relation" presumably does not apply. Indeed, the restrictive/non-restrictive distinction does not correlate with structural differences of the modifying structure, captured either in terms of argument nominalizations vs. event nominalizations, as in our framework, or in terms of Teramura's distinction between internal and external relation. The distinction lies on the nature of the denotational/referential status of the head noun. As noted above, restrictive modification obtains when the head noun is construed to be denoting a set of entities (a group of individual Japanese people) and when some members of this larger set are singled out as a subset by the denotation of a modifying structure (the industrious ones). The entire modification structure of this type denotes the intersection of the two nominal denotations (see Figure 1 in page 317).

Non-restrictive, identifying modification, on the other hand, involves a head noun that denotes or refers to a unique entity, such as a class of things (a class of dogs, a class of people named Japanese), a singular object (e.g. the sun, Tokyo), or something made specific by context, as in [*naganen hito ni kawarete kita*] *inu* 'the dog, which has been kept by people over a long period', [*Taroo ga sunde iru*] *Tookyoo* 'Tokyo, where Taro lives', and [*boku ga kinoo kata*] *kono hon* 'this book, which I bought yesterday'. In identifying modification, the denotation of a modifier identifies that of the head noun in terms of an alternative way of identifying it, and it is this alternative description that provides additional information about the head noun. We recognize two types of identification. One is identification under strict identity (e.g. [*Taroo ga sunde iru*] *Tookyoo* 'Tokyo, where Taro lives') and the other by type identity (e.g. [*boku ga kinoo kata*] *kono hon* 'this book, which I bought yesterday'). In both these cases we are identifying a unique denotation of the head noun, either in terms of strict identity of "A (head) is B" or type identity of "A (head) is a kind/an instance of B".

As we have seen, modifiers of different structural configurations (argument nominalizations with a gap, event nominalizations without a gap) may function in both



restrictive and non-restrictive, identifying modification. The same applies to the modification by nominal-based nominalizations in the form of NP-*no* discussed earlier in the preceding section and illustrated below:

- (58) a. *Hanako no tukemono*  
 Hanako GEN pickles  
 ‘Hanako’s pickles’  
 b. *Hanako no tuketa (no)*  
 pickled PRT  
 ‘Hanako’s pickled stuff’
- (59) a. *nasu no tukemono*  
 eggplant GEN pickles  
 ‘pickles of the eggplant kind’  
 b. *nasu no tuketa (no)*  
 pickled PRT  
 ‘pickled stuff of the eggplant kind’

Shibatani, Chung, and Bayaerduleng (2014) distinguished two types of genitive or “possessive” construction, identifying the type in (59) as “appositive” tacitly on account that while *nasu no tukemono/tuketa no o tabe ta* ‘ate pickles/picked stuff of the eggplant kind’ entails *nasu o tabeta* ‘ate (some) eggplant’, while no such entailment obtains in the case of forms in (58). Herein lies the distinction between the two forms pointed out earlier and repeated below:

- (60) a. [*nasu o nita*] *no o tabeta*  
 eggplant ACC cooked PRT ACC ate  
 ‘(I) ate what came out of cooking eggplants.’  
 b. [*nasu no nita*] *no o tabeta*  
 GEN  
 ‘(I) ate what came out of cooking, which were eggplants.’

(60a) is a resultative nominalization based on a VP structure and it does not specifically say that the resultant products were (still) eggplants – it may be in shape unfit to be described as a kind of eggplants. (60b), on the other hand, identifies that the resultant products were (a kind of) eggplants. The contrast is seen more clearly in the following pair.

- (61) a. [*koppu o konagona ni kowasita*] *no ga yuka ni otite ita*.  
 cup ACC in.minute.pieces to broke PRT NOM floor on fallen was  
 ‘what became of breaking a cup into small pieces was fallen on the floor’
- b. \**[koppu no konagona ni kowasita] no ga yuka ni otite ita*.<sup>50</sup>  
 GEN  
 ‘what became of breaking (something) into small pieces, which was a cup,  
 was fallen on the floor’

Structure (61b) is not possible since what has been shattered into small pieces can no longer be identified as a cup.

The meaning difference between the forms in (58) and (59), which Shibatani, Chung, and Bayaerduleng (2014) tried to capture in terms of the appositive/non-appositive distinction should be attributed to the two nominalizing *no*’s included in these forms. The nominalizer *no* in forms like *Hanako no tukemono/tuketano* ‘Hanako’s pickles/picked stuff’ is the “regular” genitive/possessive *no*, based on various kinds of metonymy schemas such as OWNER FOR GOODS, AUTHOR FOR PRODUCT, THEME FOR REPRESENTATION (e.g. *Huzi-san no e* ‘painting of Mt. Fuji), the PLACE FOR THING (*niwa no ki* ‘a tree in the garden’, *nikai no okyakusan* ‘the customers on the second floor’), etc. The one found in forms like *nasu no tukemono/tuketano* ‘pickles/picked stuff of the eggplant kind’, on the other hand, appears to be analyzable as a nominalized form of the copula *da* that supports predication by a noun. This would capture the meaning relationship between the forms in (59) and the nominal predications below:

- (62) a. *Kono tukemono wa nasu da*.  
 this pickle TOP eggplant COP  
 ‘This pickle is an eggplant.’
- b. *Kono nuka de tuketa no wa nasu da*.  
 this rice.bran in pickled PRT  
 ‘this stuff (I) pickled in rice-bran is an eggplant’

The meaning of a nominalization by the copulative *no* would be something like “*NP de aru mono*” (a thing/person that is NP or “that which/one who is NP”). This is more clearly discernible in an NP-use of such a form, as below, where [*nasu no*] is analyzed as a case of subject nominalization involving a nominalized copula form:<sup>51</sup>

<sup>50</sup> Compare (60b) and [*koppu no kireini migaita*] *no ga teeburu no ue ni atta* ‘cleanly polished things, which were cups, were placed on the table.’

<sup>51</sup> Compare these with the other copulative nominalization *na*, related to the copula *da* supporting predication by a adjectival noun or a nominal adjective; *kono hana wa kirei da* ‘this flower is pretty’: [*Ø kirei na*] *hana* ‘pretty flower’.

- (63) a. *Tukemono wa* [[ $\emptyset$  *nasu no*]<sub>NMLZ</sub>]<sub>NP</sub> *ga yoi*.  
 pickles TOP eggplant COP.NMLZ NOM good  
 ‘As for pickles, that which are eggplants are good.’
- b. *Tukemon wa* [[[ $\emptyset$  *nasubi no*]<sub>NMLZ</sub>] *to*]<sub>NMLZ'</sub>]<sub>NP</sub> *ga yoka*.<sup>52</sup> (Hakata dialect)  
 PRT  
 ‘As for pickles, that which are eggplants are good.’

The analysis above converting the copula *da* into *no* is viable for Modern Japanese, which has the copula. However, it does not work for Classical Japanese. The forms of Japanese subsumed under the rubric of Classical Japanese in this chapter did not have a copula or copula sentences like those in (62)<sup>53</sup>, yet, *no*-marked modifiers like the ones discussed here abound in those varieties of Japanese, as we will see below. It is thus necessary to recognize another type of nominalization effected by *no*, which yields forms with the meaning of “that which/who is NP”. But what kind of nominalization is it?

The recent research in natural language semantics (e.g. Carlson 1977 and Kratzer 1995 *inter alia*) recognizes that NP's refer to an entity in terms of its different aspects, ranging from an abstract generic sense referring to a class of objects to a variety of concrete senses pointing to specific manifestations of the object in time and space. An NP with a common noun like *nasu* ‘eggplant’, thus, may refer to a class of plant, as in *Nasu wa nasu-ka no syokubutu da* ‘The eggplant is a plant of the solanaceae family’, but also to any concrete manifestations of this plant, as in *Kono nasu ni-hon kudasai* ‘Give me two (long) pieces of eggplant’, which, for example, can be referring to two eggplant seedlings in a nursery or two eggplant fruits in a produce market. *Kono nasu wa umai ne* ‘This eggplant is tasty, isn't it?’ can be referring to an uncooked eggplant fruit or any variety of its form in various uses, such as the one cooked, fried, barbecued, or pickled. That NPs may refer to these concrete objects existing in space at a given time is indicated by the use of classifiers that refer to concrete shape. The above example, *Kono nasu ni-hon kudasai* ‘Give me two (long) pieces of eggplant’, would be appropriate when the objects referred to come in an elongate shape, as in the plant form or as long-shaped eggplant fruits or eggplant products in an elongate shape. The sentence is not usable if we want two pieces of fried eggplant tempura in a round flat shape, for which we must use the default classifier *tu*, as in *huta-tu* ‘two pieces’, or the one for flat objects, as *ni-mai* ‘two flat pieces’.

<sup>52</sup> The abbreviated version [[*nasubi-n*]*to*] is more frequently heard.

<sup>53</sup> What best corresponds to the modern copulative predication seen in (62) in Classical Japanese takes *nari*, the so-called *dantei* ‘assertive’ auxiliary in the traditional grammar, whose nominalized (*Rentai*) form is *naru* (cf. *Ono ga mi wa ... tuki no miyako no hito nari* ‘My body is a person of the capital of the moon’ *Taketori monogatari*).

If we assume, similarly to Carlson (1977), that common nouns denote entities conceptualized in terms of their general characteristics and properties apart from their specific instances or concrete manifestations in time and space, we need to posit an operation relating the general meaning to the concrete meanings denoting specific instances of the entity in question. In Carlson's framework, nouns denote "individuals", a collection of kinds and objects, which are related to concrete denotations of entities in time and space ("stages") via a relation *R* (standing for "realize"). In a metonymic analysis, the function of Carlson's *R* can be achieved by recognizing a conceptual metonymy such as THE ABSTRACT FOR THE CONCRETE. Observe: *Kotosi wa suugaku ga muzukasi katta* 'As for this year, the math was difficult', where, the nouns *kotosi* 'this year' and *suugaku* 'mathematics' denoting abstract concepts are used to refer to concrete entities, this year's entrance exam and the math problems. As these examples show, nouns can be metonymically used as they are. The appositive *no* seen in *nasu no tukemono/tuketano* 'pickles/pickled stuff of the eggplant kind' is a grammatical device (a nominalizer) effecting the schema THE ABSTRACT FOR THE CONCRETE, which turns a noun (or noun phrase) such as *nasu* 'eggplant' into a construction *nasu no*, which then stands for concrete manifestations of eggplants in terms of the meaning "that which/who is an NP".

Because of the various conceptual metonymies available, many expressions involving *no* are ambiguous, as in the case of *Hanako no syasin* 'Hanako's photo'. Similarly, forms like *bengosi no ozisan* can be ambiguous allowing either the appositive *no* reading just discussed, 'an/the uncle, who is lawyer', and non-appositive readings such as 'a/the lawyer's uncle'. Like the other kinds of modifiers discussed in this chapter, an appositive *no* modifier can be used in both restrictive and non-restrictive function, though the latter use seems more widely witnessed than the former. A speaker may identify his only uncle as an entity instantiating the concept *begosi* ('(one) who is a lawyer') by saying *bengosi no ozisan* 'the uncle, who is a lawyer' or 'the uncle of the lawyer kind'. If a brother and a sister are debating which of their three uncles is their favorite and say *Boku wa bengosi no ozisan ga itiban sukida* 'I like the lawyer uncle the best'; *Watasi wa isya no ozisan yo* '(Lit.) I am the doctor uncle', they are using the appositive *no* as a restrictive modifier.<sup>54</sup>

In the Japanese linguistics literature, modification structures involving a nominalized head are generally ill-understood, largely due to an inadequate understanding of the nature of grammatical nominalizations. For example, Ishigaki (1955: 220–221), an influential work in this area, comments that in his example, reproduced as

<sup>54</sup> When an individual-level predicate like *suki da* 'like' is involved, the entailment associated with the appositive *no* must be qualified. For example, *bengosi no ozisan ga sukida* '(I) like the lawyer uncle' does not entail *bengosi ga suki da* '(I) like lawyers'. It, however, entails '(I) like at least one lawyer'. Even this limited entailment does not obtain in the case of the non-appositive *no*: *Kodomo no ega suki da* '(I) like children's paintings' does not entail '(I) like at least one child'.

(64) below, what semantically connects with the predicate is *tomo* ‘friend’ and the sentence as a whole means “entertain a friend”. The nominalization [enpoo yori tazunetaru] ‘one having visited from afar’ (in Classical Japanese form) is said to modify the noun *tomo*.

- (64) [[*tomo no*] *enpoo yori tazunetaru*] *o motenasu*  
 friend GEN far.away from have.visited ACC entertain  
 ‘entertain the one who has visited from afar, who is a friend’

The understanding that the verbal-based nominalization [enpoo yori tazunetaru] functions as a modifier is reminiscent of Yamada’s (1908) understanding of what he called abbreviated grammatical nominalizations (see section 4.2) and is again likely influenced by the term *Rentaikai* (adnominal form), in which this form ends. While Ishigaki identifies the modification pattern involved in (64) as appositive, he is mistaken in the identification of the head and the modifier. A similar error is committed by Kuroda (1992), who recognizes a left-headed modification pattern, aberrant for head-final Japanese, for the following:

- (65) *Taroo wa [[ringo no] tukue no ue ni aru] no o totte...*  
 Taro TOP apple GEN desk GEN TOP on exist PRT ACC take.GER  
 ‘Taro took what existed on top of the table, which was an apple, and...’

The errors by both Ishigaki and Kuroda were caused by their lack of a proper understanding of the nature of both grammatical nominalizations and the appositive nominalizer *no*, the latter of which has a special entailment such that [[*ringo no*] *tukue no ue ni aru*] *no o totta* ‘(I) took what was on the table, which was an apple’ entails *ringo o totta* ‘(I) took an apple’. This entailment gives the impression that *tomo (no)* ‘who is a friend’ and *ringo (no)* ‘that which is an apple’ in (64) and (65), respectively are functioning as a syntactic head. Our analysis treats structures like (64) and (65) similarly to the simpler modification pattern involving the appositive *no*, such as [[*nasu no*] *tukemono*] ‘eggplant pickles’, discussed above, [[*ebi no*] *tempura*] ‘prawn tempura’, [[*onna no*] *sensei*] ‘woman teacher’, etc., where the head nominal is consistently on the right-hand side, although these all have the same kind of entailment as Ishigaki’s and Kuroda’s example. The heads in (64) and (65) are [enpoo yori tazunetaru]<sub>NMLZ</sub> ‘one who has visited from afar’ and [[*tukue no ue ni aru*]<sub>NMLZ</sub> *no*]<sub>NMLZ</sub> ‘what is on the table’, respectively, which are modified by the appositive-*no* nominalizations, [*tomo no*] and [*ringo no*], in exactly the same way as in [[*onna no*] *sensei*] ‘woman teacher’. These constructions can be either identifying or restrictive. In the identifying modification interpretations, the modifiers identify the head nouns in the following manner, where the arrowhead indicates the direction of identification:

- (66)
- | MODIFIER  |    | HEAD   |
|---|----|--|
| a. [tomo no] <sub>NMLZ</sub><br>{one who is a friend}     | => | [enpoo yori tazunetaru] <sub>NMLZ</sub><br>{one who has visited from afar} |
| b. [ringo no] <sub>NMLZ</sub><br>{that which is an apple} | => | [tukue no ue ni aru] <sub>NMLZ</sub> (no)<br>{what is on the table}        |
| c. [onna no] <sub>NMLZ</sub><br>{one who is a woman}      | => | [sensei] <sub>N</sub> ‘teacher’  |

Modification structures involving a nominalized head and an appositive-*no* modifier like the ones discussed here abound in the literary works from the Heian period, as seen in the following passages from the *Ise monogatari* (*Tales of Ise*) quoted by Frellesvig (210: 326)<sup>55</sup>:

- (67) a. [[siro-ki            tori no    **pasi to asi to aka-ki**]  
           white-ACOP.ADN bird GEN beak and feet and red-ACOP.ADN  
           sigi no opokisa naru]    midu no upe ni asobitutu iwo  
           snipe GEN size        COP.ADN water GEN TOP DAT frolic.CONT fish  
           wo kupu  
           ACC eat.CONCL  
           ‘A white bird which has a red beak and feet and is the size of a snipe was  
           eating fish while frolicking on the water.’ (*Ise monogatari* 9)
- b. [kiku                no pana no    **uturop-eru**]    wo worite  
           chrysanthemum GEN flower GEN fade.STAT.ADN ACC break.GER  
           ‘picking some faded chrysanthemum’ (*Ise monogatari* 18)

Many literary commentators<sup>56</sup> on Japanese classical literature advise us to interpret passages like these the way they are translated into English above; namely to interpret the non-boldfaced genitive marked NPs as the heads of the relevant constructions and the boldfaced verbal-based nominalizations, glossed ADN (adnominal), as their modifiers.<sup>57</sup> But some others are more cautious and are consistent with our analysis in considering the V-based nominalizations to be nominal heads, which are modified by the N-based nominalizations marked the appositive *no*. For example, the commentators of the *Ise monogatari* collected in the volume nine of the Iwanami *Nihon Koten Bungaku Taikei* (*Compendium of Japanese Classic Literature*) explicitly note

<sup>55</sup> The transliterations, glosses, and translations are Frellesvig’s.

<sup>56</sup> Keita Kitayama *Genji monogatari no gohō* (Tokyo: Tōkōshoin 1951).

<sup>57</sup> Kinsui et al. (2011:138) also think that [pati to asi to akaki] modifies [siroki tori] in (66a).

that *pasi to asi to aka-ki* in (67a) is to be understood as (*siroi tori no*) *kutibasi to asi to no akai mono* “a thing whose beak and feet are red” and that *uturoperu wo* in (67b) means *iro aseituruno o* “that which has lost its color ACC”.<sup>58</sup>

The contexts in which these passages are used also suggest that these verbal-based nominalizations are, indeed, the heads of the relevant constructions. With regard to (67a), it is not the sighting of a white bird, which is not rare, but it was the sighting of a rarer kind whose beak and feet were red that prompted the traveler to ask for its name. The two poems that follow (67b) dwell on the state of chrysanthemums that have lost their color, indicating that *uturoperu* ‘that which has lost its color’ was the center of attention. One would have to ask why the author (Ariwara no Narihira?) of the *Ise monogatari* used these constructions the way they are as in (67) when the constructions matching the English translations were readily available, namely [[*pasi to asi to akaki*] **siroki tori**] ‘a white bird which has a red beak and red feet’ and [[*uturoperu*] **kiku no pana**] ‘a chrysanthemum flower which has lost its color’.

Let us finally ask why noun modifiers, whether based on verbs or nouns, must be nominalized in their modification function. This question can be answered easily in the case of the non-appositive *no* nominalization. In either restrictive or identification function, the head noun must be either restricted or identified by the same kind of denotations as that of the head noun. Under the normal relative clause analysis, the notion of restrictive modification, for example, would be difficult to define if so-called relative clauses were believed to be clauses representing a predication relation between a subject and a verb. Under the nominalization analysis of “relative clauses”, what a verbal-based nominalization denotes is a set of entity (thing and thing-like) concepts (e.g., [*Hanako ga katta*] (no) ‘things/what Hanako bought’), which can straightforwardly specify a subset of the entity denotation of the head nominal (e.g., [*ringo*] ‘apple’). Japanese adjectives must be nominalized when they modify, as clearly seen in Classical Japanese forms such as [*aka-ki* ringo] ‘red apple’ and [*tuyo-ki* hito] ‘strong person’.<sup>59</sup> Their modern counterparts, [*aka-i* ringo] and [*tuyo-i* hito], can be analyzed as containing the modern nominalized forms of adjectival roots (cf. [[*aka-i*] no] ‘red one’ and [[*tuyo-i*] no] ‘strong one’ in the NP-use), similar to verbal-based nominalizations, whose endings are the same as finite forms in Modern Japanese. The reason why adjectives must be in nominalized form in their modification function is now easy to understand.<sup>60</sup>

The need for nominalization of modifying nouns for restrictive modification is equally easy to understand in our analysis. In the modification structure like [[*Hanako*]

<sup>58</sup> *Nihon Koten Bungaku Taikei* Vol 9 (Tokyo: Iwanami Shoten 1957) p. 117, p. 122.

<sup>59</sup> Cf. ungrammatical \*[*aka-si* ringo] and \*[*tuyo-si* hito] with the finite forms of these adjectives.

<sup>60</sup> See the concluding section about the ramifications of this in other languages.

kaban], for example, the denotation of [Hanako], namely a woman by that name, cannot specify a subset of the denotation of the noun [kaban] ‘bag’ because the two sets of denotation do not intersect. The nominalization [Hanako no], on the other hand, denotes entities to which Hanako might be related as their owner. Because [Hanako no] now denotes things, it can specify a subset of the things denoted by [kaban]. Accordingly, the structure [[Hanako no] kaban] satisfies the semantic requirement for restrictive modification. Similar reasoning applies to other constructions such as the noun-headed one [[kodomo-tati no] kakekko] ‘the running of the children’ and the nominalization-headed one [[kodomo-tati no] hasiru] (no) ‘the running of the children’, where the modifying nominalizations denote activities in which the children are involved as protagonists, which then can specify a subset of the running activities denoted by the head nominals.

The reason why the appositive-*no* nominalization must apply can also be understood along the similar line, once we assume, as we did earlier, that nouns denote “individuals” defined in terms of general characteristics/properties pertaining given entities. The appositive-*no* nominalization convert the individual level denotations to stage-level denotations, brining the denotations to the level appropriate for restricting or identifying purposes.

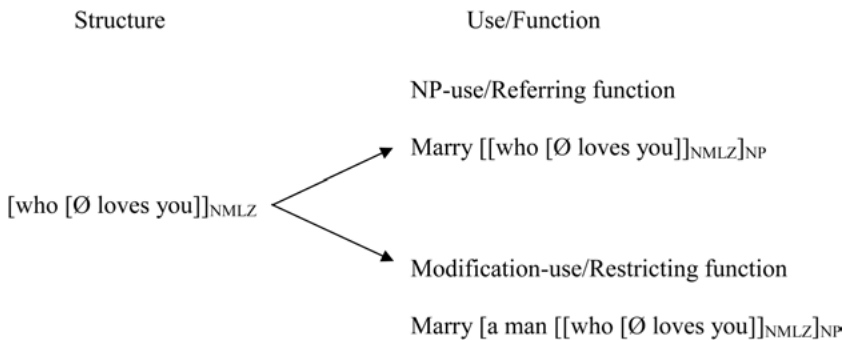
An interesting phenomenon related to the use of the appositive-*no* nominalization is that nouns can modify without undergoing this nominalization process in many, but not all, cases. For example, while \*[[bengosi] ozisan] (for ‘lawyer uncle’) is definitely bad, both [[nasu no] nita] (no) ‘cooked stuff of the eggplant kind’ and [[nasu] nita] (no) are possible. Some of the ones without *no* call for a slight pause as in [[Nihon no syuto] Tookyoo] ‘Tokyo, Japan’s capital’ [[Nooberu-syoo sakka] Ooe Kenzaburoo] ‘Kenzaburō Ōe, a Nobel laureate author’, similar to the English counterparts, where the order of the modifier and the head is reversed. The range of juxtaposition constructions without *no* far exceeds those relatable to the ones mediated by *no* like the examples seen here. They also vary considerably in the semantic relations holding between the modifier nominal and the head nominal, even including ones commuting to restrictive modification constructions with *no*, but whose function does not seem entirely identical with restrictive modification, e.g. [[seikai no oomono] (no) toozyoo] ‘the appearance of a political big shot’.<sup>61</sup> How these juxtaposition constructions are related to the types involving N-based nominalizations discussed above is an interesting and important question that needs to be explored further (cf. Kobayashi (1966), and Mano (2016) for initial attempts).

<sup>61</sup> Some of these may derive from abbreviation of clausal expressions; e.g. [Seikai no oomono ga tuini toozyoo] ‘a political big shot finally appears’ > [seikai no oomono tuini toozyoo], the latter of which has no *no*-mediated counterpart, \*[seikai no oomono no] tuini toozyoo].



## 8 Conclusions and future prospects

Despite its importance in both grammar descriptions and theoretical studies, there has been a general neglect in the study of nominalizations, especially grammatical nominalizations, in the field. A consequence of this neglect has been widespread misunderstanding of the true nature of so-called subordinate clauses in general and so-called relative clauses, in particular, which have long been analyzed in a wrong-headed way. The treatment of the nominalizations in NP-use as headless relative clauses (Andrews 2007, etc.) or as nominalizations derived from relative clauses is putting the cart before the horse.<sup>62</sup> Comrie and Thompson (2007: 378), among others, recognize a connection between nominalizations and relative clauses, but they describe it as “a somewhat more rare function of nominalization: as a relative clause modifying a head noun”, despite the fact that such a connection is found even in English, which uses *wh*-forms to mark argument nominalizations, as in Figure 2.<sup>63</sup>



**Figure 2:** Two uses/functions of English argument nominalization

There is even more striking similarity between Japanese and English. Both have developed a special marker for an NP-use of nominalization, *no* in central dialects of Japanese, as discussed above, and English *one*, as used for argument nominalizations in NP-use; cf. *You should marry [who [Ø loves you]]* and *You should marry one [who [Ø loves you]]*.

As shown above, both historical and dialectal, as well as crosslinguistic perspectives play very vital roles in reaching deeper understandings of various aspects of grammatical structures. For example, studies of Middle English, where the NP-use

<sup>62</sup> Sneddon (1996: 300) remarks about Indonesian nominalizations thus: “Nominalization occurs when the head noun [of a relative clause] is elipted [...] The **yang** [nominalization] phrase then functions like a noun.”

<sup>63</sup> See Shibatani (2009) for a crosslinguistic survey of the extensive use of nominalizations as modifiers in relative constructions.

of grammatical nominalizations did not need the *one* marker, and of the transition from Middle English to Modern English, and those dealing with dialectal data displaying usage patterns different from the mainstream dialects, such as the East Anglia use of *what*-nominalization as a modifier (e.g. *Gemma screamed at the man [what crashed into our car]*), would open up the horizon for a comprehensive understanding not attainable in a narrow investigation focused on synchronic data from a mainstream dialect. We have also mentioned the importance of the descriptive practice of addressing the actual use of grammatical structures rather than relying on native-speaker intuition, which may not reflect actual usage patterns found in natural data.

We argued at length that so-called relative clauses are neither clauses/sentences nor independent structures apart from a use of nominalizations as modifiers. The same applies to so-called content clauses that identify head nouns (*the fact [that John is already married]*). Treating these as clauses or sentences, as in past studies, fails to distinguish between internal and external properties of grammatical structures. Structure-internal similarities do not guarantee that we are dealing with similar grammatical structures, whose category status must be determined on the basis of their functions and external morphological and syntagmatic properties. Sentences, clauses, and nominalizations differ in both function and external properties, as described in section 5. There are other structures than these nominalizations that require further investigation from a functional perspective, such as those clause-looking structures used as adverbial modifiers (e.g. *before/after/since [John arrived here]* or *[Kenzi ga kuru] ya inaya* ‘as soon as Kenji has arrived’ and *[Kenzi ga kure-ba]* ‘if Kenji comes’ in Modern Japanese), as well as those non-finite structures permitting *no*-marked modifiers, as in the Classical Japanese form *kimi no imasi-seba* ‘if my lord had still be here’.

Our radical proposal to reanalyze the so-called genitive case as a nominal-based nominalization finds support in many languages other than Japanese, such as Lahu and other Tibeto-Burman languages, Chinese, Nepali, and Modern Hebrew, where both N-based and V-based nominalizations have the same morphological marking, or in languages such as Korean and Telugu, where the NP-use of both N-based and V-based nominalizations involve the same marker, as in Japanese. Our analysis solves the longstanding mystery why so-called genitive cases are similar to nominalization/relative clause markers in one way or another in the world’s languages (cf. Aristar 1991).

We suggested that a noun modifier must be nominal based on our understanding of what restrictive and non-restrictive, identifying modification amounts to. The modification-use of adjectival roots in Classical Japanese, which requires the *-ki* derived nominal forms as in *[tuyo-ki] hito* ‘a strong person’, corroborates this. This raises an interesting issue about the nature of modification by adjectives in other languages, the understanding of which has been a challenge. One proposal has been that a phrase like *a strong man* involves a secondary predication such as *a man is strong*, but there is little evidence for it other than that the phrase has such

an entailment. In the case of Indo-European languages, a closer affinity between nouns and adjectives allows a possibility that adjectival modification turns out to be a case of modification by a noun, or a nominalized form of an adjective. The Sanskrit form *śukla:m* ‘white’ in *saḥ śukla:m ga:m a:nayati* (he white cow brings) ‘He brings a white cow’, is like a noun taking noun inflections just like the head noun *ga:m* ‘cow.FEM.SG.ACC’.<sup>64</sup> It also has an NP-use, like any other nouns, as in *saḥ śukla:m a:nayati* ‘He brings a white (one).’

A similar pattern is seen in modern European languages, most clearly in Romance languages that permit the usage pattern paralleling the Sanskrit case; e.g. Portuguese *um carro azul* (ART car blue) ‘a blue car’: *Eu quero um azul* ‘I want a blue (one)’. What about English then? Are adjectival modifiers really nouns or nominalizations in English as well? Do they have an NP-use like Sanskrit and Portuguese? Well, as seen in the translations of these Sanskrit and Portuguese examples, English requires the *one*-marking in the NP-use of these “adjectives”. But we noted above that the *one*-marking is almost obligatorily required in the NP-use of verbal-based nominalizations in Modern English. The parallelism is clear between the pattern *Marry a man [who you love]* (modification-use): *Marry one [who you love]* (NP-use) and *a blue car* (modification-use): *a blue one* (NP-use). Investigations of languages in which adjectives form a robust independent lexical category would yield interesting results.

In the introduction of this chapter we promised that Japanese grammar would look quite different from what we had known once a proper understanding of the nature of nominalization has been attained. We hope that the lengthy discussions above have lived up to this promise. These concluding remarks above suggest that the same point perhaps applies to the grammars of other languages as well.<sup>65</sup>

## Acknowledgments

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<sup>64</sup> This is normally treated as agreement between the head noun and the dependent modifier. Our understanding of restrictive modification in the previous section readily explains why the modifier must agree with the head noun. But the agreement analysis does not extend to the case of an NP-use of the “agreeing” form, as in *he brings a white (one)*, unless gratuitous deletion of a head noun is posited.

<sup>65</sup> See Shibatani (2009) and Shibatani (2018b) on crosslinguistic patterns of nominalizations.

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## 9 The morphosyntax of grammaticalization in Japanese

### 1 Introduction

Grammaticalization is a framework that goes back to ideas in European linguistics in the late 19th and early 20th century, but in its current form it was kickstarted by a seminal paper by Givón (1971), was further developed in continental Europe of the 1980s (Heine and Reh 1984; Lehmann 1986), and then finally took off in the 1990s, with the paper collection Traugott and Heine (1991) and the textbook by Hopper and Traugott (1993) as important catalysts. Nowadays, it is one of the most popular approaches to grammar in functionally oriented linguistics, and is increasingly making inroads into formal linguistics as well.

The standard definition of the core concept harks back to the Polish linguist Kurylowicz (1976 [1965]: 52), for whom “[g]rammaticalisation consists in the increase of the range of a morpheme advancing from a lexical to a grammatical or from a less grammatical to a more grammatical status.” In ex. (1) we can see the contrast between the same verb *mora(w)-* ‘receive’ in lexical (1a) and in grammaticalized benefactive (1b) use. While the lexical verb originates in the 13th century, the grammaticalized use is about 400 years younger and a development out of the lexical use.

- (1) a. *Taroo wa kaisya ka kara hana o morat.ta.*  
PN to TOP company ABL flower ACC receive-PST  
‘Taroo received flowers from the company.’
- b. *Taroo wa miNna ni ie ni kaet.te morat.ta.*  
PN to TOP all DAT house ALL return-GER receive-PST  
‘Taro had everyone go home’ (lit. ‘Taroo received from everyone going home’)

This concept of grammaticalization may sound like a rather innocent, trivial idea, but it can have profound repercussions for our understanding of grammar if we assume that practically all elements of grammar have reached their status through the process of grammaticalization. There are indeed many scholars working within functional frameworks who share the assumption that synchronic language structure is the result of, and must be explained with reference to, diachronic processes. Thus, as Heine (1997: 2) writes, “Language is a historical product and must be explained first of all with reference to the forces that have shaped it.” These processes are in turn driven by cognitive and communicative mechanisms. The relevance of gramma-

ticalization theory to the current research landscape in linguistics can be understood under this premise. This premise is a challenge to formal and structural approaches to grammar that strictly distinguish synchrony and diachrony, privileging synchrony over diachrony. It is also a challenge to a syntax-centered conception of grammar, as the driving factors behind grammaticalization are assumed to be semantic and pragmatic. It is no surprise, then, that the large majority of grammaticalization studies deal with semantic and pragmatic issues. Furthermore, while some authors define the study of grammaticalization rather strictly as (part of) the study of (historical) language change (e.g. Hopper and Traugott 2003: 2), others also recognize a synchronic dimension. Lehmann (1986: 3) writes that “under the diachronic aspect, grammaticalization is a process which turns lexemes into grammatical formatives and makes grammatical formatives still more grammatical [...]. From the synchronic point of view, grammaticalization provides a principle according to which sub-categories of a given grammatical category may be ordered.”

The study of grammaticalization has also led to the development and study of a number of related concepts, especially lexicalization and pragmaticalization, which share some but not all features of grammaticalization, and degrammaticalization, which is in some features opposite to grammaticalization. Narrog and Heine (2011) includes articles for each of these processes.

Since this paper is designed as a chapter for a handbook of syntax, the goal will be to highlight the formal, i.e. syntactic and morphological, aspects of grammaticalization in Japanese, which are often neglected. This does not mean, though, that the approach taken here is formalist. The following section 2 will give a short overview of grammaticalization studies in Japanese. Section 3 will give an overview of grammaticalizations in Japanese with particular reference to their morphological and syntactic properties. Section 4 will present case studies.

## 2 Studies in Japanese grammaticalization

Before delving into details, I should note here that it is quite difficult if not impossible to give an accurate picture of grammaticalization studies on Japanese. For one thing, there is the question to what extent studies on the diachronic developments in grammar before the advent of the concept of grammaticalization, or even more recent publications that concern diachrony but do not make reference to grammaticalization, should count as grammaticalization studies. For example, it has been pointed out that concepts like “formalization of words” (*tango no keishikika*) were known before the advent of grammaticalization (cf. Horie 2002: 126). On the other hand, it is fair to say that such concepts were not investigated vigorously or researched systematically. Admittedly, such problems also hold for studies published in English or other European languages. However, in Japanese, the situation is more complicated in one important respect. Unlike in Western linguistics, most linguistic research, especially



in historical linguistics, is published in university publications that are almost infinite in number and difficult to monitor. The presentation in this section is therefore inevitably biased towards research with high visibility in well-known publications.

It is fair to say that grammaticalization was introduced to the Japanese research landscape with considerable delay, and this was initiated by scholars trained in the U.S. To start chronologically with book publications and special issues of journals, Ohori (1998) is a paper collection based on a 1993 workshop enhanced by additional papers. True to the spirit and theoretical impetus of grammaticalization of its time, the focus is clearly on semantics and pragmatics. Most of the papers deal with the development of particles that have developed various functions in discourse. The weight was on analyses within Modern Japanese, including Early Modern Japanese. This is in fact a characteristic of grammaticalization studies in Japanese in general: although historical materials are in principle available, and some of them also in electronic form, the lack of corpora is a considerable hurdle to study the phenomenon from a historical perspective. After Ohori (1998), there was a 2005 special issue of the journal *Nihongo no Kenkyū* (formerly: *Kokugogaku*), which is the leading journal of Japanese linguistics in Japan. This special issue contained a good mix of topics, synchronic and diachronic, structural and semantic-pragmatic. The paper collection Aoki (2007) is more clearly historically oriented. Some of the individual papers of these collections will be cited below. Onodera and Suzuki (2007) is a special issue of the *Journal of Historical Pragmatics* on grammaticalization and (inter)subjectification, that is, a mainly semantic issue that will not feature in this chapter. In Japanese linguistics, grammaticalization-related research can sometimes be found under different labels, such as the study of ‘complex words’ (*fukugōji*; e.g. Fujita & Yamazaki 2006) or of ‘formal words’ (*keishikigo*; e.g. Fujita 2013). Finally, one should also mention Robbeets and Cuyckens (2013) edited book on shared grammaticalization more generally in Transeurasian (Altaic) languages, which carries a couple of articles specifically on grammaticalization in Japanese.

As for monographs that are grammaticalization studies in all but in name, we have for example the seminal book on the grammaticalization of the case/connective particle *ga* by Ishigaki (1955), the monograph on the history of the politeness suffix –*mas*- (Miyaji 1980), and the study of morphological grammaticalization of Japanese verb morphology by Narrog (1999). A few PhDs have been written on Japanese grammaticalization topics in English and are available via UMI, of which we shall mention here Ohori (1992) on conditional clauses, Dasher (1995) on honorifics, and Suzuki (1999) on the “formal noun” *wake* and the quotative particle –*tte*. A still unpublished paper collection by Tsunoda will deal with the grammaticalization of nouns in the verb phrase in Japanese and structurally similar languages. Otherwise, we have a large number of individual paper publications, the majority of which are written in Japanese. We will refer to them below to the extent that they are relevant to the topic here, and known to the present author.

### 3 Morphosyntactic aspects of grammaticalization in Japanese

#### 3.1 Parameters of grammaticalization

Before delving into concrete cases of grammaticalization, it is important to keep in mind what actually constitutes grammaticalization, that is, what concretely constitutes a shift from the lexical to the grammatical, and from there to more grammatical. Of course, the most fundamental issue involved here is the question what is grammatical. This is an immensely complex question that we cannot reasonably try to solve here, but we have to take for granted that there is a rough consensus about what is grammatical across frameworks. It goes without saying, though, that there are plenty of borderline cases that are controversial even within one framework. When it comes to specific criteria, Lehmann (2002) and Heine (Heine and Narrog 2010; more comprehensively concerning formal aspects in Heine and Reh 1984), although both originally proposed already in the 1980s, are still the most detailed references that continue to be cited.

Lehmann's (2002) parameters of grammaticalization are developed top-down from an overarching idea of grammaticalization as decrease in autonomy of a linguistic sign. The autonomy of a linguistic sign can be measured by the three parameters of weight, cohesion, and variability, which have both a paradigmatic and a syntagmatic aspect. The idea is represented in Table 1.

**Table 1:** Parameters of grammaticalization (I) (Lehmann 2002: 110)

Parameter	Paradigmatic	Syntagmatic
Weight	Integrity	Structural scope
Cohesion	Paradigmaticity	Bondedness
Variability	Paradigmatic variability	Syntagmatic variability

The parameters on the paradigmatic dimension of a sign's autonomy mainly belong to the domain of morphology while those on the syntagmatic dimension refer to both morphology and syntax. Morphologically, grammaticalization means that a sign becomes increasingly shortened, and integrated into inflectional and derivational paradigms, while syntactically it loses freedom of position. Overall, the parameters display a bias towards morphology.

Heine's approach, as in the following list from Heine and Narrog (2010) is bottom-up. Based on the observation of a very large number of grammaticalization processes cross-linguistically, they posit the parameters of grammaticalization as in Table 2:

**Table 2:** Parameters of grammaticalization (II) (Heine and Narrog 2010: 405)

parameter	explanation
Extension	the rise of new grammatical meanings when linguistic expressions are extended to new contexts (context-induced reinterpretation)
Desemanticization	loss (or generalization) in meaning content
Decategorialization	loss in morphosyntactic properties characteristic of lexical or other less grammaticalized forms
Erosion	loss in phonetic substance

Unlike in Lehmann's parameters, there is not one overarching idea that subsumes all specific tendencies. Instead, these parameters aim to represent a comprehensive package or set of changes that is characteristic for grammaticalization as opposed to mere analogical change, or lexicalization or pure semantic change in the lexical domain, for example. It is readily admitted by all authors mentioned here, that actual cases of grammaticalization rarely imply the full set of changes posited by them. They should display at least a sub-set, though. There is also the question whether in a specific language some parameters of grammaticalization are more or less relevant than in others. There are indications that this is the case, but we start out here with the assumption that Japanese is a language to which the common parameters apply quite well.

### 3.2 Morphological aspects of grammaticalization in Japanese

In terms of Lehmann's parameters, we expect the following things to happen to grammaticalizing items.

- A) loss of "integrity", i.e. loss of morphological and phonological substance
- B) increasing paradigmaticity, i.e. integration into small(er) and tight(er) paradigms; also resulting in a decrease of paradigmatic variability
- C) increasing bondedness, also accompanying decrease of structural scope, i.e. the grammaticalizing item gets attached to, or becomes morphologically dependent on a smaller syntactic unit than before; note that "structural scope" in Lehmann's model is a morphological and not a syntactic notion; syntactically we would rather expect scope increase (see below)
- D) loss of syntagmatic variability, which is also often concomitant to bonding to another linguistic item

In terms of Heine's parameters we primarily expect the following:

- E) decategorialization, i.e. loss of nominal and verbal properties.

In addition, Heine (Heine and Reh 1984) earlier enumerated the following processes as characteristic for the phonological and morphological aspects of grammaticalization. They are fundamentally no different from the contents of Lehmann's parameters A, C, and D.

- F) phonological changes: adaptation, erosion, fusion, loss; morphosyntactic processes: permutation, compounding, cliticization, affixation, fossilization

Now we'll take a look at what actually happens morphologically to grammaticalizing items in Japanese. The observations below are based on Narrog (1999, 2005) and Narrog and Ohori (2010), and therefore admittedly biased towards the present author's own writings. Note, though, that morphological grammaticalization has never been a particularly popular research topic in Japanese linguistics, because traditional Japanese linguistics, with its dependence on script rather than phonology, and adherence to Classical Japanese as the standard, lacked the tools for systematic diachronic morphological analysis.

The morphological aspect of grammaticalization in Japanese is largely determined by the fact that the language has been consistently head-final and agglutinating (with some isolating and fusional elements) throughout its documented history. As another premise, based on structural distributions one can distinguish three dependent morpheme classes in Japanese, namely derivational affixes (whereby the understanding here is that they do not necessarily change word class), particles, and inflections (on verbs and adjectives). Inflections are the most tightly bound, i.e. exhibiting the highest degree of assimilation and fusion, and particles the most loosely bound among these three morpheme classes (cf. Narrog 1998). Furthermore, we know from cross-linguistic research that there is a strong preference for suffixation over prefixation in general, but in SOV languages in particular (cf. e.g. Bybee et al. 1990). This preference also plays out in Japanese. The overall tendency is captured in the grammaticalization cline of (2) (cf. Narrog and Ohori 2011: 777):

- (2) word/construction > particle > derivational affix > inflection

Note that this cline does not suggest that a grammaticalizing item has to take every step on the cline. Especially particles are peculiar, as particles tend to end up as particles, and in some cases even degrammatize, and not move further to the right, and they are therefore put in brackets here. However, in terms of the expected changes A) to F), the overall cline has the following properties:

- B) increasing paradigmaticity, since members of the major word classes on the left side are the least paradigmatic while inflections form the smallest paradigms,  
 C) increasing bondedness, since independent words are the least bound, and inflections the most bound morphemes, as shortly explained above,

- D) loss of syntagmatic variability, since inflections are clearly the least variable morphemes, and
- E) decategorialization, since words and constructions are by definition categorical, while in each step to the right, verb and noun properties get lost.<sup>1</sup>

A) cannot be immediately confirmed since in principle, an item can go through all steps without being eroded. However, as we will see now, erosion does often take place. Table 3 presents a number of grammaticalizations from the Japanese verb phrase. The table focuses on the historical source and the target, i.e. the result in Modern Japanese. I should emphasize here again that morphological categorization is based on distributional analysis and does not necessarily coincide with category labels in traditional Japanese grammar, where morphological analysis is based on the writing system, and the description of Classical Japanese.

**Table 3:** Some grammaticalizations in the Japanese verb phrase (cf. Narrog 2005)

Modern Japanese form	morphological structure	historical source (period)	morphological structure of source
From periphrastic construction to particle			
– <i>da</i>	=v(+f)	– <i>de ar-</i> (ModJ)	=p V+f
– <i>des-</i>	=v	– <i>de gozari-mas-</i> (ModJ)	=p V+v
From lexical item to suffix			
– <i>ta-</i>	–a	<i>ita-</i> (LOJ)	A
– <i>mas-</i>	–v	<i>mawir.as-</i> (LOJ)	V+v
From suffix, or suffix combination, to inflection			
– <i>Taroo</i>	–f	– <i>tar-am.u</i> (LOJ)	–v+v+f
–(a) <i>na-</i>	–a	–(a) <i>n.af-</i> (OJ)	–v+v
– <i>mai</i>	–f	= <i>masizi-ki</i> (OJ)	=a+f
– <i>Ta</i>	–f	– <i>tar.u</i> (OJ)	–v+f
– <i>Tara</i>	–f	– <i>tar-aba</i> (OJ)	–v+f
–(y) <i>oo</i>	–f	–(a) <i>m.u</i> (OJ)	–v+f
–(a) <i>zu</i>	–f	–(a) <i>zu</i> (OJ)	–v
– <i>Te</i>	–f	– <i>te</i> (OJ)	–v
– <i>Tari</i>	–f	– <i>tari</i> (OJ)	–v
From particle to inflection			
–(r) <i>eba</i>	–f	–(ur) <i>e-ba</i> (OJ)	–f=p
–(i) <i>ro</i>	–f	= <i>ro</i> (OJ)	=p
– <i>yo</i>	–f	= <i>yo</i> (OJ)	=p
– <i>e/i</i>	–f	–(y) <i>e/=yo</i> (OJ)	–f/=p

<sup>1</sup> As for the intermediate step between particle and suffix, in accordance with this cline, suffixes are also less autonomous than particles with respect to each of the parameters mentioned here, but I will forego discussing this point in detail here.

As can be seen from the table, quite often two or more morphemes merge into one. Furthermore, quite often inflecting morphemes (e.g.  $-v+f$ ,  $-a+f$ ) become uninflecting ones, thus exemplifying tendency E) of decategorialization. Perhaps the most spectacular case of morphological erosion is that of the politeness marker  $-mas-$ , which in full detail underwent the following change:

- (3) a.  $*mawi\sim ir.as.uru$  (OJ) >  $mawir-as.uru$  (LOJ) >  $mair-as.uru/mairas.uru$  (EMJ) >  $maras.uru$  (LMJ) >  $-mas.uru$  (LMJ) >  $-mas.u$  (EModJ)
- b.  $V+V+v+f > V+v+f > V (+v)+f > V+f > -v+f > -v+f$

However, grammaticalization does not always lead to suffixation. In many cases a noun (e.g. *koto* ‘thing’, *tokoro* ‘place’) or verb (e.g. *kuru* ‘come’, *suru* ‘do’) exhibits a continuum from lexical to grammatical uses, and the grammatical use cannot be clearly classified as a suffix. Also, there are cases where periphrastic structures persist (e.g.  $-(a)nakereba\ narana-$  for necessity, as discussed below in 4.2). Furthermore, the contrast to Korean (cf. Rhee 2011) is striking, where loss of “integrity” is rampant, leading to many more examples of stunning morphological erosion than in Japanese. One possible explanation for this is difference in phonological structure. Schiering (2010) has suggested that the prosodic system of a language strongly influences the degree to which erosion accompanies grammaticalization. Japanese is clearly a mora-based language, and according to Schiering (2010) should display little erosion. In contrast, the classification of Korean prosodic structure is less clear, and it may therefore involve more erosion. This is an issue that warrants further investigation.

Japanese language history also offers a number of examples of morphological degrammaticalizations and exaptations. There are also a few eye-catching examples of accretion instead of deletion of morphological material (e.g. so-called *sa-ire* and *re-tasu* words). Interested readers are referred to Narrog and Ohori (2011: 783–4) for a short summary.

### 3.3 Syntactic aspects of grammaticalization in Japanese

#### 3.3.1 The syntactic study of grammaticalization in general

As mentioned above, the study of grammaticalization tended to be based on semantics and pragmatics, and syntax was mostly identified with aspects of decategorialization. Nevertheless, meanwhile even a formal syntactic line of grammaticalization research has developed, as described in van Gelderen (2011). Generally speaking, nowadays there are mainly three approaches to syntax in grammaticalization, namely, (1) the traditional one, in which grammaticalization is analyzed in its own terms, without

the application of a specific theory of syntax, (2) an approach in terms of structural hierarchies, as represented by generative grammar and Functional Discourse Grammar (FDG), and (3) the Construction Grammar (CxG) approach. They are introduced here only briefly, under the assumption that whoever wants to apply one of the more specialized approaches to syntax in grammaticalization will have access to them. Furthermore, basic literature on these approaches is provided for further reference.

As for the traditional approach, one can refer to DeLancey (2004, 2011) and section 2 of Narrog and Heine (to appear). Among Lehmann's (2002) parameters (3.1), only the loss of syntagmatic variability is a clearly syntactic criterion. Instead of being able to appear in various positions in the sentence, as normal nouns and verbs can, the grammaticalized item loses syntactic flexibility and gets bound to one, or a small number of, specific position(s). Among Heine's criteria (Heine and Narrog 2010), it is primarily decategorialization that can be identified with syntactic grammaticalization. In fact, for DeLancey (2011: 366–7) grammaticalization is primarily the “shift of a form or construction from one category to another”, in particular, from the major lexical categories of noun or verb, or a combination of them, to a minor or a functional category. Items that grammaticalize are downgraded in various respects, including loss of clause boundary, loss of informational (and concomitantly, prosodic) focus, and loss of head status in traditional grammar description (cf. DeLancey 2004: 1596). Besides the reanalysis and downgrading of categories, processes that particularly reflect the syntactic side of grammaticalization, are the genesis of complex clauses (cf. also Narrog and Heine [to appear; section 2]) and of grammatical relations.

Approaches in terms of structural hierarchies can be represented by van Gelderen (2011) and Hengeveld (2011). While the approach to grammaticalization in terms of generative grammar may be better known than that in FDG, it was in fact Hengeveld (1989) who first claimed that “diachronic developments in the field of operators tend to follow the direction [from lower layer to higher layer]” (p. 142). In both models of grammar, the basic idea is that grammaticalization constitutes a reanalysis upwards within the structural hierarchy from a lower-level lexical or grammatical category, to a higher-level grammatical category. In generative grammar, this idea is also framed in terms of “economy”. It is more economical for a linguistic item to merge higher in the tree than to merge lower and then move, and it is more economical to be a head than a specifier (cf. van Gelderen 2004). The most recent approach is in terms of “feature economy”. Lexical items with specific semantics are reanalyzed as grammatical items with interpretable, and then with uninterpretable features, before the item gets lost and then renewed (cf. van Gelderen 2011). Note that the relationship between generative grammar and grammaticalization theory is anything but straightforward, since generative grammar is intrinsically a-historical, and non-semantic. However, besides the work of van Gelderen, grammaticalization has recently gained some spotlight through work by other prominent scholars such as Werner Abraham, Ian Roberts, and Paul Kiparsky.

A similar conflicted yet increasingly fruitful relationship also holds for CxG and grammaticalization. The approach may be represented by Noël (2007) and Trousdale (2012). Noël (2007) suggests that from a CxG point of view, grammaticalization is a mere sub-case of the emergence of constructions, which is the object of study of construction grammarians interested in diachrony. He further points out the intrinsic contradiction between the concept of grammaticalization and construction grammar, which in most models rejects the distinction between grammar and the lexicon that lies at the heart of the idea of grammaticalization. Trousdale (2012: 175) tries to bridge the contradiction by positing specific criteria for what he calls “grammatical constructionalization”, namely (a) an increase in the generality of the construction, (b) an increase in the productivity of the construction, and (c) a decrease in the compositionality of the construction. He then shows how these criteria can be applied to English degree modifier constructions.

We won't go into detail with any of these theories here but instead look at actual grammaticalizations in Japanese and how they may be interpreted.

### 3.3.2 Japanese

If we assume that all, or at least the majority of all grammar, is the product of grammaticalization processes, we have just as many subjects for the study of grammaticalization as we have grammatical markers and constructions. However, not all of them

**Table 4:** Representative (recurrent) grammaticalizations in recorded Japanese language history

i.	The rise of postpositional verb phrases of the structure $vN=p\ V+f$ (e.g. $vN\ ni\ tuite/ni\ yotte$ etc.) (e.g. Matsumoto 1998; Chen 2005)
ii.	The rise of the $vV+Te\ V$ constructions (e.g. $vV+Te\ i/-k/-mora(w)/-mi-$ etc.) to express aspectual, benefactive, directional, and other meanings (e.g. Ono 1991; Fukushima 2011)
iii.	The rise of conditional constructions to express mainly event-oriented modal meanings; e.g. $V+(a)nakereba\ narana-$ . In general, the rise of periphrastic constructions in the domain of modality. (e.g. Narrog 2007; Yajima 2013)
iv.	The increasing use of semantically bleached nouns (e.g. <i>tumori</i> , <i>wake</i> ) in the verbal cluster to express modal meanings (e.g. Suzuki 1998; Miyaji 2007)
v.	The genesis of complex sentences through noun phrase expansion (cf. Heine and Kuteva 2007; ch. 6.4; Givón 2009). There are mainly three processes, namely (a) the rise of adverbial clauses with case particles marking the adverbial relation (e.g. <i>ga</i> , <i>no de</i> ), (b) the rise of adverbial clauses from nouns with adnominal clauses (e.g. <i>baai</i> , <i>toki</i> ), and (c) the spread of complement clauses with nouns as complementizers (e.g. <i>koto</i> , <i>tokoro</i> ). Note that (iv) and (v b,c) taken together constitute what has been called the ‘grammaticalization of formal nouns’ in traditional Japanese linguistics (cf. Miyaji 2007)
vi.	The rise of the minor, grammatical word class of adnominals (e.g. <i>kono</i> , <i>sono</i> , <i>aru</i> )
vii.	The rise of numeral classifiers, which is as much a phenomenon of language contact with Chinese as it is a phenomenon of grammaticalization (cf. Miyasu 2010)
viii.	The genesis of various quotative forms (e.g. <i>tote</i> , <i>tte</i> ), some of which have grammaticalized beyond the domain of quotation (e.g. Suzuki 2007)



are equally suitable. Obviously, grammaticalizations in historically documented times are more suitable for study than proto-Japanese reconstructions, and recurrent processes, of which we have many examples, are better examples than unique processes. Further, as we are interested in syntax here, we are interested in clear examples of category change, even if this change may not be completed yet. The list in Table 4 is a selection of processes that pass these criteria, and which may be seen as representative of grammaticalization in Japanese as we know the language historically.

This is by no means a comprehensive list but it should be representative. I believe that one could also add the two most spectacular syntactic changes in the documented history of Japanese, namely the demise of the *kakarimusubi* focus constructions, and the spread of systematic case marking to this list. But these changes are not yet very well understood in terms of grammaticalization, so they are left out here.

## 4 Studies on Japanese

In this section I will introduce two pieces of research that are remarkable for having paid particular attention to formal criteria of grammaticalization, namely Shibatani (2007a, b) for case (ii) in Table 4 above (4.1), and Hanazono (1999) for case (iii) (4.2). Both are concerned with so-called “primary grammaticalization”, i.e. change from lexical to grammatical. In addition I will present a short study of my own (4.3), which is concerned with a case of “secondary grammaticalization”, i.e. progressive change to other grammatical categories.

### 4.1 Motion verbs

Shibatani (2007a), together with Shibatani (2007b) and Shibatani and Chung (2007), is a study of the synchronic degree of grammaticalization of the *vV+Te k-* (verb gerund + ‘come’) construction in its spatial uses. This is a construction which is clearly grammaticalized in its aspectual use as inchoative aspect, but has also a number of spatial uses that do not have clear grammatical status. Iwasaki (2013: 149), for example, is a language description that does not include them in grammar, while Kaiser et al. (2001: 504–505) includes them partially. It is these weakly or non-grammaticalized uses, depending on the perspective, that are the subject of Shibatani’s study. The author does not reveal which concept of grammaticalization he adheres to, but he mainly operates with the term “decategorialization”, which goes back to Heine et al. (1991) and Hopper (1991), and is central to Heine’s understanding of the formal aspect of grammaticalization (see above).

Shibatani (2007a) sets up five syntactic tests in order to determine fine distinctions in the degree of grammaticalization between the spatial uses of *vV+Te k-*. They are augmented by one test about *vV+Te ik-* (verb gerund + ‘go’). The results of these tests are displayed in Table 5, rearranged in order to make the argumentation clearer.

**Table 5:** Tests for grammaticalization of spatial *vV+Te k-* (cf. Shibatani 2007a: 123)

	a. <i>mie-</i>	b. valency	c. fragment	d. <i>'rassyar-</i>	e. <i>'k-</i>	f. neg. scope
I. lexical <i>k-</i> ‘come’	+	+	+	–	–	n/a
II. <i>arui.te k-</i> ‘walk come’	+	+	+/–	+/–	+/–	wide/narrow
III. <i>de.te k-</i> ‘exit come’	+	–	–	+	+	wide
IV. <i>nonde k-</i> ‘drink come’	–	–	–	++	++	narrow

The spatial uses of the construction, on the left side of the table may be labeled as, (I) the lexical use, (II) “manner of motion” use, (III) “directional” (“spatial vector”) use, and (IV) “consecutive actions” use.

Now, from a point of view of semantic grammaticalization, one would expect the “directional/spatial vector” use (III) to be the most grammaticalized one, if not the only one grammaticalized. In this use some abstraction has taken place, and directionality is a semantic category which many languages actually grammaticalize. In contrast, the expression of manner of motion (II) is often a matter of lexical typology rather than grammaticalization (Kaiser et al. (2001) don’t have them either). Finally, the expression of consecutive (but semantically unrelated) actions (IV) would normally imply grammaticalization of the subordination marker on the verb, but not grammaticalization of one of the verbs. After all, *k-* in this construction does not express any apparent grammatical category. Furthermore, and decisively, in the consecutive actions use we are dealing with two separate events. In contrast, grammaticalization would presuppose that the erstwhile two events are fusing into a single event, that is, a bi-clausal construction becomes mono-clausal.

However, Shibatani (2007a) is a paper that aims to derail conventional wisdom about grammaticalization in general. The author suggests that the tests and their results as displayed in Table 5 show that the consecutive actions use (IV), which shows no sign of semantic/functional grammaticalization, is in fact the most grammaticalized one. That is, we would have formal grammaticalization without semantic or functional grammaticalization. If proven to be correct, this would be a major challenge to grammaticalization theory, where it is commonly assumed that semantic grammaticalization precedes and triggers formal grammaticalization (cf. Heine et al. 1991: 213; Heine & Narrog 2010: 405). As I will show below, I believe that this challenge is not successful. But the paper is nevertheless meaningful in posing such

a challenge, and in approaching grammaticalization from a syntactic vantage point, and it will therefore be discussed in some detail here.

Positive results in tests (a)–(c) are supposed to indicate a high degree of verbal categoriality, and negative results decategorialization. In (a), the motion verb is replaced by the honorific verb *mie-*, which according to the author is possible in all but the consecutive actions construction (IV). In (b), it is argued that the motion verb does not retain its goal argument in constructions (III) and (IV). In (c), the point is whether the verb preceding the motion verb can be used alone without the motion verbs in responses to questions about the action. I cannot render all examples for all the tests here, but I will shortly describe them and reproduce the examples to the extent that they are immediately relevant to the discussion.

Examples (4) to (6) were provided by Shibatani (2007a: 116) for test (a).

- (4) *Yamada-sensei wa gakkoo ni arui.te ki.ta/mie.ta.*  
 Yamada-Prof to TOP school ALL walk-GER come-PST/come.HON-PST  
 ‘Professor Yamada walked (walk come) to school.’
- (5) *Yamada-sensei ga kyoositu ni hait.te kit.ta/mie.ta toki...*  
 Yamada-Prof. NOM classroom ALL enter-GER come-PST/come.HON-PST time  
 ‘When Professor Yamada came into (enter come) the classroom...’
- (6) *Yamada-sensei wa ippai non.de ki.ta/\*mie.ta.*  
 Yamada-Prof. to TOP a.drink drink-GER come-PST/come.HON-PST  
 ‘Professor Yamada had a drink (and came).’

Next are the examples provided in Shibatani (2007a: 119–120) for test (b). Example (7) shows that the goal complement is fully compatible with construction (II), while (8) in contrast to (9), and (10) in contrast to (11) presumably show that a goal complement gets disallowed in constructions (III) and (IV) of Table 5.

- (7) *Taroo wa gakkoo=e arui.te it.ta/ki.ta.*  
 Taroto TOP school ALL walk-GER go-PST/come-PST  
 ‘Taro walked (walk went/came) to school.’
- (8) *Taroo wa zibun no heya-o de.te, Hanako no heya ni it.ta.*  
 Taroto TOP self GEN room ACC exit-GER Hanako GEN room ALL go-PST  
 ‘Taro exited his room and went to Hanako’s room.’
- (9) *\*Taroo wa Hanako no heya ni zibun no heya o de.te it.ta.*  
 Taroto TOP Hanako GEN room-ALL self GEN room ACC exit-GER go-PST  
 ‘(lit.) Taro went out (exit went) of his room to Hanako’s room.’

- (10) *Taroo wa ringo o tabe.te, gakkoo=e it.ta.*  
 Taroto TOP apple ACC eat-GER school ALL go-PST  
 'Taro ate an apple and went to school.'

- (11) \**Taroo wa gakkoo=e ringo o tabe.te it.ta.*  
 Taroto TOP school ALL apple ACC eat-GER go-PST  
 '(lit.) Taro eat-went an apple to school.'

Positive results in tests (d) and (e) conversely indicated decategorialization. They both concern the deletion of the first syllable of the motion verb in the verb sequence. 'rassyar-' is the abbreviation of *irassyar-* as an honorific equivalent of *k-* 'come'. 'k-' is the abbreviation of *ik-* 'go', a stand-in for *k-* 'come' only in this test, because there is no equivalent phenomenon with *k-*.

- (12) *Yamada~sensei wa gakkoo ni arui.te ki.ta/irassyat.ta/'rassyat.ta.*  
 Yamada-teacher to TOP school ALL walk-GER come-PST/come(HON)-PST  
 'Professor Yamada walked (walk come) to school.' (Shibatani 2007a: 117)

- (13) *arui.te ik.u > arui.te~'k.u*  
 walk-GER go-NPS walk-GER-go-NPS

With all constructions, the abbreviations are possible. However, the result of the author's Google searches (Shibatani 2007a: 118, 122) suggested to him that they become better, or more common, in the order (II) > (III) > (IV), i.e., they are best with the consecutive actions construction.

Finally, the meaning of test (f) is difficult to assess, since the judgments for it do not form a cline. However, according to Shibatani (2007a), narrow scope of negation on the final motion verb shows higher event integration and therefore a higher degree of grammaticalization than wide scope. Examples (14) to (16) illustrate the judgments found in Table 5.

- (14) *Daremo basu ni not.te ko-na-kat.ta.*  
 no one bus ALL ride-GER come-NEG-VBZ-PST  
 'No one came riding a bus.'  
 (No one came on the bus = wide scope reading)  
 ('They came but no one came by bus' = narrow scope reading)

- (15) *Daremo heya ka karade.te ko-na-kat.ta.*  
 no one room ABL exit-GER come-NEG-VBZ-PST  
 'No one came out of the room.'  
 (No one came out = wide scope reading)  
 (No narrow scope reading possible; 'They came but not exiting a room')

(16) *Daremo gohan o tabe.te ko-na-ka.tta.*

no one meal ACC eat-GER come-NEG-VBZ-PST

'No one had a meal (and came).'

(No wide scope reading is possible; No one came after having eaten a meal)

('They came but no one had a meal' = narrow scope reading)

As mentioned above, this battery of tests was designed to demonstrate the decategorialization of *k-* 'come' in the construction *vV+Te k-*, as observed in its syntactic behavior. The paper also comes up with a number of far-reaching conclusions and claims about grammaticalization in general, such as denial of the role of metaphor and metonymy, and denial of the role of frequency in grammaticalization, two factors which have played a central role in traditional grammaticalization research of various convictions (cf. section 1). As for the motivation for presumptive high degree of grammaticalization of the consecutive actions use, Shibatani (2007a) proposes the principle that "semantically incongruous contexts facilitate grammaticalization" (p. 130). This hypothesis also appears counterintuitive, or even provocative, in the light of grammaticalization research.<sup>2</sup>

Despite the highly challenging nature of Shibatani's (2007a) study, together with Shibatani (2007b), and Shibatani and Chung (2007), the reaction has been muted. To my knowledge, so far only Arai (2013; and in presentations elsewhere) has responded directly to the challenge. In a systematic study on phonological corpus data, he rejects Shibatani's (2007a) findings about phonological truncation (e). According to Arai (2013), it is stylistic and phonotactic (word length) factors rather than semantics that influence truncation of the initial syllable of *ik-* 'go'. Further, in terms of Shibatani's types of constructions, it is the directional use (III) rather than the consecutive actions use that has the highest rate of truncation. While Arai (2013) does not include (d) *rassyaru* in the study, overall it seems unlikely that the proposed results and conclusions in Shibatani (2007a) about the phonological aspects are tenable.

The same must probably be said about Shibatani's (2007a) other tests as well. The study covers a fairly narrow semantic area of constructions which have not undergone much grammaticalization yet, and tries to tease out subtle differences between them in terms of their syntactic behavior. Crucially, a clear standard of what is expected to happen in grammaticalization is lacking. I believe that it would have been necessary to start by asking what the criteria are for grammaticalization in the verbal domain in general. Second, one should look for criteria to test monoclausality, i.e. clause condensation, versus biclausality. Then, one should clarify how these criteria are expected to play out in these specific constructions. A standard

<sup>2</sup> Cf. Liu 2012 for a study of the historical grammaticalization of the Chinese venitive verb *lái*, where he shows that grammaticalization started in contexts where *lái* was attached to a semantically similar verb, which enabled the semantic backgrounding of *lái*.

of comparison of how these criteria actually play out in constructions of the same structural type that are more advanced in grammaticalization, e.g. aspectual *-Te i-*; benefactive *-Te kure-*, *-Te mora(w)-* etc. might have further enhanced the reliability of the tests. Since these steps are lacking, the tests appear to be constructed ad hoc just for this particular set of constructions, and it is not clear whether they actually test for degree of grammaticalization, or for something else. Additionally, the reliability of constructed sentences and individual grammar judgments on very subtle semantic distinctions is a perennial problem in research methodology, which in my opinion also casts its shadow on this study.

In any case, test (a) should probably be interpreted in the sense that *k-* in specific constructions but not in others loses its ability to be replaced by an honorific. This, then, is part of decategorialization. However, it is not clear whether the possibility to replace *k-* by *mie-* tells us anything about the grammaticalization or decategorialization of *k-*. Instead, it may tell us actually more about the (relatively low) degree of grammaticalization of *mie-*, which unlike *irassyar-*, for example, is not an honorific broadly used in auxiliary position. After all, *k-* can be easily replaced by the more common honorific, *irassyar-*. Likewise, in constructions that are doubtlessly much more grammaticalized than motion *vV+Te k-*, such as the aspectual *vV+Te i-* and the benefactive *vV+Te kure-*, the plain verb can be replaced by an honorific verb (*irassyar-* or *kudasar-*) without problem. It is rather questionable therefore, that non-replacement by *mie-* is a sign of grammaticalization. Furthermore, one cannot help but get the impression that the difference in judgment between constructions (III) and (IV) was affected by a simple manipulation of the linguistic context. Note that while the whole example sentence (5) is adnominalized to the noun *toki* ‘time’, the others are not. It turns out that if *toki* is removed, according to the speaker judgment available to me, the difference in grammaticality or felicity between (5) and (6) is basically eliminated.

In the case of the valency test (b), I believe that the contrast between (10) and (11) in fact shows just the opposite of what Shibatani (2007a) intended, namely that the construction is not grammaticalized at all, or only to a very low degree, and is still essentially bi-clausal. (11) is disallowed because the arguments of the two predicates have not merged yet in one single complex predicate, so the predicates and their arguments must be kept separate. Compare (11) to the predicate and argument merger observed in the clearly grammaticalized benefactive construction:

- (17) *Taroo ga Hanako ni zitaku ni ki.te morat.ta#*  
 PN NOM PN DAT home ALL come-GER receive-PST  
 ‘Tarō had Hanako [do the favor to] come to his place.’

I cannot say much about the fragment test (c), since basically all three constructions are not felicitous as fragments, and the author teases out subtle differences in “badness”, which as a non-native speaker I am unable to replicate. Finally, with

respect to test (f) (negation), I also believe that if anything, it shows just the opposite of what the author intended. The wide scope reading in (15) with directional construction is exactly what we find in the highly grammaticalized constructions with *vV+Te*, as (18) with *vV+Te mora(w)-* below demonstrates.

- (18) *Daremo sensei ni seikai o osie.te moraw-ana-katta.*  
 no one teacher DAT solution ACC tell-GER receive-NEG-PST  
 ‘No one [received the favor of] being told the solution by the teacher.’  
 (wide scope reading)

Essentially, in a clearly grammaticalized, and mono-clausal, construction like the benefactives, since the two predicates have fused, there are no two scopes anymore, and consequently the final negation has scope over the whole sentence. The clear scope distinction between the predicates, and the narrow scope in (16) show that this construction has practically not grammaticalized. Overall, then, those tests that may actually tell us something about the grammaticalization of *vV+Te k-*, namely (b), (d/e) and (f), seem to point to a very low or no degree of grammaticalization for the consecutive actions construction (IV), and perhaps to some grammaticalization for (III). This is exactly what we expected by their degree of semantic grammaticalization. But further investigation is necessary.

Although the discussion of Shibatani (2007a) has ended in a rather negative conclusion<sup>3</sup>, the paper has been valuable for the discussion in this chapter for a number of reasons. First of all, this is one of only few papers that try to seriously tackle grammaticalization with testable syntactic criteria. In fact, it is hard even today to come by similar contributions to the study of grammaticalization in Japanese. Secondly, the apparent flaws in the choice and interpretation of the syntactic tests demonstrate the necessity to approach such a study systematically from a broad perspective with a set of general parameters of grammaticalization, or ideally, even a model of grammaticalization in mind. Concrete tests should then be developed out of such a model, with a clear idea of what kind of phenomena are suitable to assess

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<sup>3</sup> In my view the paper has further serious flaws when it comes to generalizing the results to the study of grammaticalization in general, as the author attempts to do. For example, the relevance of the concepts of metaphor and metonymy and frequency for grammaticalization is dismissed easily on the basis of a superficial discussion, without much reference to the numerous empirical studies in the field, or without any serious attempt to actually explain the constructions in terms of metonymy or metaphor. In fact, the grammaticalization of motion verbs in general, which is quite common cross-linguistically but only incipient in the case of the Japanese *vV+Te k-* motion constructions discussed in this paper, has been treated as a paradigm case of the role of metaphor and metonymy (e.g. Radden 1996). On the other hand, the problem more fundamentally lies with the assessment of which of the three constructions is actually grammaticalized. There is indeed no apparent metaphor or metonymy in construction (IV), but as the discussion here has shown, this construction is not grammaticalized either.

the degree of grammaticalization, which outcome of a specific test would be indicative of grammaticalization, and why. Furthermore, clearly grammaticalized constructions as a standard of comparison will enhance the reliability of the tests.

## 4.2 Periphrastic deontic constructions

Hanazono (1999), the next study presented here, is quite similar in its approach. However, typically for traditional Japanese research, it does not highlight the theoretical concept of grammaticalization, and it is more modestly descriptive in orientation. Therefore, it also does not make sweeping claims about grammaticalization in general. Unfortunately, Hanazono (1999) as well does not present a clear idea of general parameters, or even a model, of grammaticalization either. However, in practical terms, the approach is solid and the results are as far as I can judge reliable. Therefore I consider it as a successful study that deserves being introduced here as well, in a pairing with the similar study of the previous section. The subject of investigation are two modal conditional constructions (item (iii) in Table 4), in five different formal realizations, namely the general necessity construction in the two formal realizations *V+(a)nakereba narana-*, lit. ‘it does not become if not’ and *V+(a)nakereba iken-*, lit. ‘it cannot go if not’, which differ in the expression of impossibility in the apodosis, and the “advice” construction in the three formal realizations *V to ii*, *V-Tara ii* and *V+(r)eba ii*. All three literally mean ‘it would be good if’ but they have a different conditional form in the protasis (see Narrog 2009; ch. 10 for descriptive details on these constructions). These two constructions in five realizations are run through nine tests, the results of which are displayed in Table 6. The tests are designed with the goal of determining the degree of what the author variously calls unification (*ittai*), univerbation (*ichigoka*), grammatical formalization (*bunpō keishikika*), and grammaticalization (*bunpōka*). Thus, arguably, the theoretical foundation, or background, is also unclear in the case of this study. Nevertheless, in terms of the models of grammaticalization and their parameters introduced in 3.1, the paper can be said to actually test Lehmann’s parameters of syntagmatic and paradigmatic variability. It tests the degree to which the complex expressions under investigation have become mono-clausal. Compared to the original, I have rearranged the criteria on both axes in an order that a continuum (cline) obtains, namely from easier to fulfill to harder to fulfill criteria on the vertical axis and from (presumably) more to less grammaticalized on the horizontal axis.

There is clearly not enough space to explain each construction with respect to each criterion. I’ll nevertheless give one example per criterion, as provided by the author. Examples for actual occurrence are mostly taken from a corpus of written texts (novels), and are quoted here indirectly, i.e. not from the original texts but from Hanazono (1999). Ungrammatical examples that do not occur in the texts were



**Table 6:** Tests for grammaticalization of modal conditionals (cf. Hanazono 1999: 49)

	a. V+(a) <i>nakereba</i> <i>narana-</i>	b. V+(a) <i>nakereba</i> <i>ikena-</i>	c. V to <i>ii</i>	d. V- <i>Tara ii</i>	e. V+(r) <i>eba ii</i>
I. impossibility of ellipsis of first apodosis with two protases	+	+	+	+	+
II. conditional adverb impossible	+	+	+	+	+
III. modal adverb modifies whole predicate	+	+	+	+	+
IV. repetition of conditional	+	+	n/a	+	+
V. impossibility of politeness marking in protasis	n/a	n/a	+	+	n/a
VI. loss of semantic correspondence with polar antonym in the apodosis	+	+	+	+/-	+
VII. impossibility of protasis-apodosis inversion	+	+/-	+	+	+/-
VIII. impossibility of insertion of adverb between protasis and apodosis	+	+/-	+/-	+/-	+/-
IX. loss of polarity in protasis	+	+	+/-	+/-	-

constructed by the author. Note that Hanazono (1999) indicates ungrammaticality by a simple question mark “?”, while I use an asterisk “\*”.

### I. Impossibility of ellipsis of first apodosis with two protases

Unlike in ordinary conditionals, the first apodosis cannot be deleted if it is identical with the second apodosis in a series of two conditionals. This is shown in example (19), which is ungrammatical without *narana-* in the first conditional.

- (19) *Sigoto-zyoo de misu o si.ta baai, zibun de kaiketusaku o*  
 work on ESS mistake ACC do-NPS case self ESS solution ACC  
*kangae-na.kereba*  
 think-NEG CON  
 \*(*nar-ana.i*), *mosiku wa tadati ni hookoku-si-na.kereba*  
 become-NEG-NPS or to TOP immediate ADV report-do-NEG CON  
*nar-ana.i#*  
 become-NEG-NPS

‘If you make a mistake at work, you have to think of a solution or immediately tell your superior.’ (Hanazono 1999: 43)

## II. Conditional adverb impossible

Ordinary conditionals can be modified by a conditional adverb, but conditionals that are part of a grammaticalized construction cannot, as (20) is supposed to show.

- (20) \**mosi* *kimi ga ik-ana.kereba nar-ana.i#*  
 if you NOM go-NEG CON become-NEG-NPS  
 ‘You have to go.’ (Hanazono 1999: 42)

## III. Modal adverb modifies whole predicate

There are a number of adverbs like *zehitomo* ‘by all means’ that can modify performative deontic expressions. Neither protasis nor apodosis of the conditional construction in (21) by itself would be felicitous with this adverb (cf. \**zehitomo kansei-suru*; \**zehitomo naranai*) but only the combination of both as a deontic modal construction.

- (21) *Zehitomo, simekiri-made ni kansei~si-na.kereba nar-ana.i#*  
 by.all.means deadline-LIM ADV completedo-NEG CON become-NEG-NPS  
 ‘It doesn’t become, if you don’t finish this job till tomorrow.’  
 (Hanazono 1999: 44)

## IV. Repetition of conditional

In this test, the point is whether the same conditional form can occur before the conditional involved in the modal expression or not. Repetition of the same non-grammaticalized conditional would be stylistically odd, while this is not the case with a conditional in the grammaticalized conditional constructions, as (22) is supposed to show.

- (22) ... *setuinni huN ga tamar.eba, kumi~tori mo si-na.kereba*  
 latrine-LOC shit NOM accumulate CON scoop-take FOC do-NEG CON  
*nar-ana.i#*  
 become-NEG-NPS  
 ‘... when shit would accumulate in the latrine, he would have to scoop it up and dispose of it.’ (Hanazono 1999: 41)

## V. Impossibility of politeness marking in protasis

In the grammaticalized construction, the verb in the protasis loses its ability to take honorific marking. Note that this test cannot be applied to *-(a)nakerebanaranai*, which does not allow honorific marking in the protasis for morphological reasons, so in this case I replace it with an example of Vto *i-* in (23). The apodosis in this example is adjusted to honorific style in order to facilitate honorific marking in the protasis, but even then, honorification is not possible.

- (23) *Sensei ni kii.te mi.ru to i.i / \*mi-mas.u to yorosyuu*  
 teacher DAT ask-GER try-NPS CON good-NPS/ try-POL-NPS CON good(ADV)  
*gozaimas.u*  
 be(HON)-NPS  
 ‘You’d better ask the teacher.’ (Hanazono 1999: 46)

## VI. Loss of semantic correspondence with polar antonym in the apodosis

The polarity of the apodosis cannot be changed without a loss of semantic correspondence, or outright ungrammaticality, as in (24).

- (24) *Gakkoo=e ik-ana.kereba \*nar.u/nar-ana.i#*  
 school ALL go-NEG-CON become-NPS/become-NEG-NPS  
 ‘You have to go.’ (Hanazono 1999: 43)

## VII. Impossibility of protasis-apodosis inversion

(25) is supposed to demonstrate that protasis and apodosis of the grammaticalized conditional cannot be inverted, as they could in a normal conditional sentence.

- (25) *\*nar-ana.i#, asu=made ni kono sigoto o siage-na.kereba...*  
 become-NEG-NPS tomorrow-LIM ADV this job ACC finish-NEG-CON  
 ‘It doesn’t become, if you don’t finish this job till tomorrow.’  
 (Hanazono 1999: 44)

## VIII. Impossibility of insertion of adverb between protasis and apodosis.

According to the author, unlike with normal conditionals, it is not possible to insert an adverb between protasis and apodosis.

- (26) *Gakkoo=e ik-ana.kereba \*zettai ni nar-ana.i#*  
 school ALL go-NEG-CON absolute ADV become-NEG-NPS  
 ‘You absolutely have to go to school.’ (Hanazono 1999: 44)

## IX. Loss of polarity in protasis

As (27) illustrates, the polarity of the conditional in the protasis cannot be changed, as would be possible with ordinary conditionals.

- (27) *Gakkoo=e \*ik.eba/ik-ana.kereba nar-ana.i#*  
 school ALL go-CON/go-NEG-CON become-NEG-NPS  
 ‘You have to go.’ (Hanazono 1999: 42)

The author himself mentions three presumptive limitations to his tests at the end of his study<sup>4</sup> (Hanazono 1999: 49–50) but I believe that his tests are essentially successful. As mentioned above, Hanazono's tests seem to be a good match with Lehmann's (2002) parameters of grammaticalization. In terms of these parameters, they can be grouped as follows:

- (a) Loss of syntagmatic variability: I, VII, VIII
- (b) Loss of paradigmatic variability: V, VI, IX
- (c) Loss of structural scope; increase in bondedness: II, III, IV

As already mentioned, Lehmann's notion of scope is different from that in generative grammar. II, III, and IV are good examples for the loss of scope in Lehmann's (2002) morphological terms, since the individual elements in the grammaticalizing construction lose the ability to relate to elements outside the verb phrase, but instead become part of the overall construction. Arguably, though, while the individual items of the construction lose scope, the construction as a whole undergoes an increase in syntactic scope from clause to sentence. Likewise, the individual elements of the construction become bound to the construction, although the bounding is still syntagmatic and (probably) not yet morphological, i.e. there is no clear evidence that *narana-* etc. must be considered as suffixes yet, nor the conditionals as prefixes. Tests II to IV simultaneously indicate a shift from bi-clausality to mono-clausality, i.e. clause integration, as do tests I, VII, and VIII.

In conclusion, the grammatical status of the periphrastic constructions that developed in Japanese of the modern period (from Late Middle Japanese on) is a perennial problem, but Hanazono's (1999) study gives a good example of how it can be assessed from a modern synchronic perspective.

### 4.3 The Japanese future marker

The two studies presented so far have used grammaticalization as a concept for synchronic data analysis. While this is entirely legitimate, there is little doubt that grammaticalization research, especially in languages that are historically documented, should ideally be based on, or at least backed up by, diachronic data. In English grammaticalization studies, the availability of diachronic corpora has greatly enhanced the study of grammaticalization. In Japanese, such corpora are not yet available (although a number of historical electronic texts are available), and large-scale studies of diachronic grammaticalization are still largely missing, even if there are

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<sup>4</sup> 1. Finer distinctions in the meanings of the constructions investigated should be made; 2. The very fact that variation in the conditional form is possible shows that to some extent conditional meaning is still alive, which was not shown in the tests; 3. Related, less grammaticalized forms should also be included in the investigation.

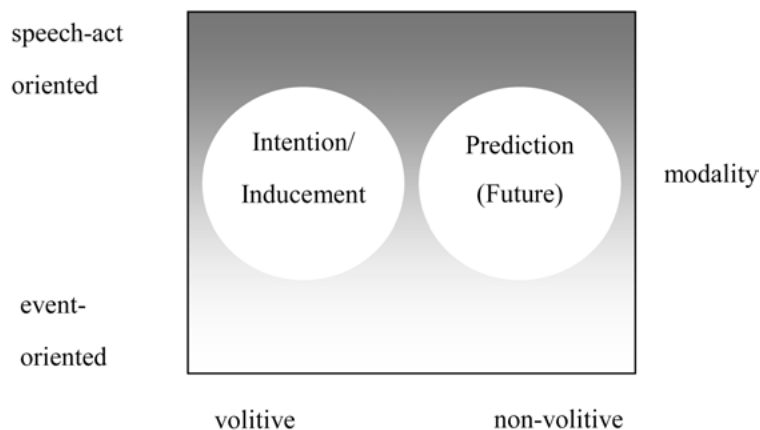


Figure 1: Old Japanese *-(a)m-*

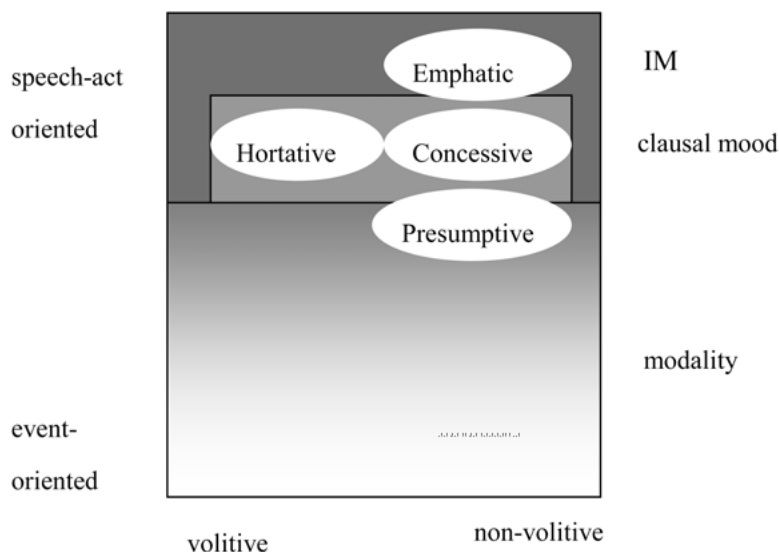


Figure 2: *-(y)oo (daroo)* in the modern standard language

some high-quality traditional diachronic grammar studies. The last piece of research by myself presented in this subsection will not really alleviate this lack, but it will at least offer a limited diachronic perspective. Also, it will deal with a case of “secondary grammaticalization”, i.e. a grammatical marker acquiring different grammatical functions, instead of primary grammaticalization (lexical to grammatical), as the previous two studies in this section.

My own interest in grammaticalization with respect to syntax has mostly been in the “upwards” movement of grammatical categories across a hierarchy or layering of categories, as espoused in FDG and in generative grammar. In an earlier publication I suggested that the Japanese future marker *-(y)oo* (*-(a)m-* in Old and Late Old Japanese) historically “climbed up” in a hierarchical model of modal categories from relatively event-oriented modality in Old Japanese to being a speech-act-oriented mood marker in Modern Japanese (Narrog 2012: 131–2). This is represented in the two figures below. The figures present the core area of modality and on top of it, that is, further grammaticalized, we find mood and illocutionary modification (“IM”).

The layering is semantically and pragmatically motivated, and I will not further elaborate on it here, but simply refer to the source (Narrog 2005, 2012) for reference. In short, as the contrast between the two figures showed, I claimed that while OJ *-(a)m-* was a broad intention/prediction marker expressing event-oriented modality, ModJ *-(y)oo* has become mainly a mood marker with performative functions (hortative, emphatic), and clause-subordinating functions (concessive) while retaining an epistemic (presumptive) use in written language. In this section, I wish to illustrate another salient aspect of the development of *-(a)m-/-(y)oo* by referring to the concept of “grammatical constructionalization” (cf. section 3.3.1; Noël 2007; Trousdale 2012). The concept of “construction” refers to a unique match of form and meaning. It is particularly useful to highlight the Modern Japanese synchronic usage of *-(y)oo* as well as its history, which is, in some sense, as I will explain below, symptomatic of the diachrony of Japanese modal expressions in general. Note, though, that this section is not a strict application of any specific model of construction grammar, but merely takes construction grammar as an inspiration to describe the development of constructions.

Before delving into the analysis, it is worth-while to note that *-(a)m-/-(y)oo* is a clear case of grammaticalization with respect to form. OJ *-(a)m-* was an inflecting suffix. Besides the finite and adnominal form, which were undistinguishable as *-(a)m.u*, it also had a nominalizing conditional form *-(a)m.e*, a nominal form *-(a)m.aku*, and depending on the morphological analysis, an irrealis past form *-(a)m.asi*. We will ignore *-(a)m.asi* from here on, since its relation to *-(a)m-* is sometimes contested. *-(a)m-* lost its inflections in Late Old and Middle Japanese and became an uninflecting suffix, i.e. an inflection itself. In terms of Lehmann’s parameters, it lost “integrity” and gained in “paradigmaticity”. In Heine’s terms, it “decategorized” by losing its verb features. One can also speak of phonological “erosion” since the only consonant of the morpheme, /m/, fell prey to fusion between preceding and following vowel.

Now, the main point that I want to make here by focusing on constructions is that *-(a)m-* originally covered a large semantic area without much formal distinction, but eventually it differentiated into a large number of functionally specialized form-meaning pairings. This kind of change is representative of the change in modal expressions from OJ to ModJ in general. Similar modal morphemes in OJ were *be-*,

to which sometimes 20 or more meanings across epistemic, deontic, and dynamic domains of modality are ascribed (cf. Narrog 2002), and *masi*-. In contrast, ModJ modal markers and constructions are usually specialized on specific modal meanings, and they are often periphrastic (analytic) rather than inflectional (synthetic), such as the deontics discussed in 4.2. In this respect, *-(y)oo*, as a remainder from older Japanese, is untypical for ModJ modality. It is typical, though, in terms of specialization of meaning, namely through a proliferation of constructions rather than through change of form, as I will argue below. A very basic contrast between Old Japanese *-(a)m-* and Modern Japanese *-(y)oo* can be illustrated with the constructed example (28).

- (28) a. *Kimi o yume ni mi.yoo*  
           you ACC dream ADV see-HOR  
           ‘I’ll/wanna see you in my dreams’ / #‘I’ll probably see you in my dreams’  
           (ModJ)
- b. *Kimi o ime ni mi-m.u.*  
           you ACC dream ADV see-INT  
           ‘I’ll/wanna see you in my dreams’ / ‘I’ll probably see you in my dreams’  
           (OJ)

The point is that at least in the Modern standard colloquial language and in sentence-final position *-(y)oo* has only a volitive reading (usually a hortative one, but in this linguistic context a commissive one), while in OJ, we find both volitive and non-volitive (predictive) readings for the same verb in basically the same linguistic context (cf. Narrog 2005, 2012 for the concept of “volitive” vs. “non-volitive” in modality).

The following analysis of *-(a)m-* in OJ is based on Kōji (1980), a corpus study of OJ *-(a)m-* covering all occurrences (1731) of the morpheme in the *Man’yōshū*, which is by far the largest collection of OJ text. Note that the fact that the *Man’yōshū* consists mainly of poetry potentially distorts the description, but we also have analyses of *-(a)m-* from LOJ (e.g. Wada 1994), which show a similar picture. Kōji’s (1980) work is philological in nature, basing his analysis on extant comments on, and translations of, this work. He basically distinguishes two major meanings of *-(a)m-*, which are available across its different inflectional forms, and across all persons as subjects. These are (1) prediction, and (2) intention. Note that (1) prediction is labeled as *suiryō* “inference” by Kōji in Japanese, but *suiryō* is an extremely broad, almost vacuous cover term for all kinds of epistemic and evidential meanings in traditional Japanese linguistics. In the case of *-(a)m-*, the “inference” is mostly an inference about the future, i.e. a prediction (cf. Konoshima 1979: 262–3). Kōji (1980) considers the kind of “inference” expressed by *-(a)m-* as “objective” (cf. p. 178). There are also four secondary meanings, namely (3) wish (*kibō*), (4) “euphemism” (*enkyoku*), (5) inference of possibility (*kanō suiryō*) and (6) appropriateness (*tekitō*). Kōji defines

(3) wish as the “strong subjective expression of intention” (p. 108) and admits that they are essentially the same, and the distinction between them relies on the intuition of the person interpreting them (p. 113, 117). Furthermore, no distinction is made between intentions or wishes of first person singular and plural or second person. Therefore his (2) intention and (3) wish taken together correspond to “intention/inducement” in Figure 1. (4) “Euphemism” is subcategorized into (1) prediction and (2) intention. In adnominal position, where the expressive meaning of the modal suffix weakens, and the meaning contribution of  $-(a)m-$  to the clause becomes vague. One could take this as a kind of merger in the sense of Coates (1983: 16). I will label this here as “downgraded” prediction/intention. Kōji’s (5) inference of possibility (*kanō suiryō*) is (1) prediction with additional subjectivity (cf. p. 178), as he considers the normal prediction use of  $-(a)m-$  as “objective”. But again, he readily admits that essentially there is no distinction to (1) prediction, and the impression of different meanings is largely an artifact of different modern translations (p. 179). Lastly, (6) “appropriateness” and (7) “assumption” are only found in 2 and 1 out of 1731 instances of  $-(a)m-$ , respectively. Kōji (1980: 188, 169) also considers them as the (1) prediction use with variation as an artifact of modern translation. We will therefore ignore (6) and (7) from here on.

Overall, then, we have two basic meanings and some variation in syntactic context. The question I am most interested in here is to what extent the two basic meanings and their nuances can actually be differentiated according to specific forms and syntactic contexts, i.e. in specific constructions. We are therefore looking for distinct patterns associated with a specific meaning, which occur with some frequency. Kōji’s (1980) does not only cite every single occurrence of  $-(a)m-$ , he also classifies them along person of the subject and syntactic position, and gives further systematic information about syntactic context. Altogether he identifies and presents about 190 different combinations of form, meaning, person, and syntactic surrounding with  $-(a)m-$  and gives their number of occurrence (pp. 201–205). Therefore, he is an excellent source of information, practically equivalent to a modern corpus study, even if he does not espouse corpus linguistics or construction grammar.

Now, my goal was to identify among the 190 different patterns cases in which specific meanings are uniquely identified with specific persons of the subject, specific inflectional forms, or specific syntactic environments, i.e. “constructions”. Furthermore, I set a threshold of five occurrences, because the presence or absence of just a handful of examples among 1731 overall may simply be due to coincidence of documentation. It turns out that uniquely identifiable constructions are rather rare. Basically, all meanings are available across morphosyntactic contexts and persons of subject. The few identifiable “constructions” are represented in Table 7. The first letter of the construction label refers to the fact whether the meaning of  $-am-$  in the construction is volitive (“V”) or non-volitive (“N”).

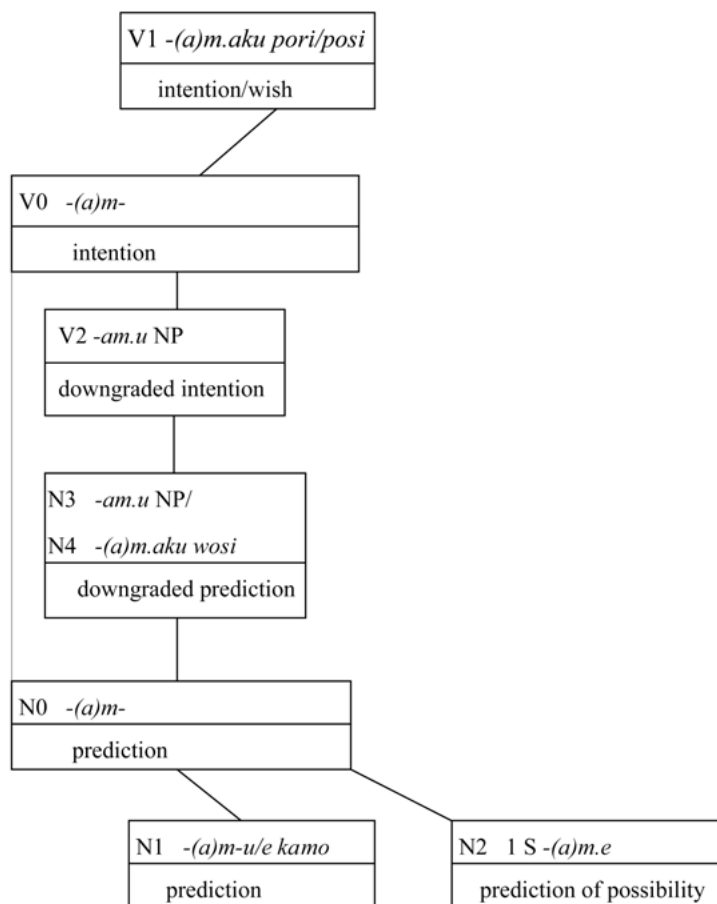


**Table 7:** Uniquely identifiable constructions with *-(a)m-* in OJ

label	form	subj.	pos.	meaning	example	frequency
V1	<i>-(a)m.aku posi/pori</i>	1~3	ADV	intention/ wish	<i>nak.u kowe o kik-am.aku pori to</i> cry-ANP voice ACC hear-FUT NMZ want QUO 'I [went out], wanting to hear [the cuckoo] sing' (MYS 4209)	42
V2	<i>-(a)m.u NP</i>	1~3	ADN	downgraded intention	<i>se-m.u sube mo na.si</i> do-FUT-ANP way FOC not.be-FNP 'There is nothing I can do' (MYS 466)	67
N1	<i>-(a)m.u/e ka mo</i>	1~3	FIN	prediction	<i>yam.azu omop.aba imwo ni</i> <i>ap-am.u ka mo</i> stop-NEG think-CON lover DAT meet-FUT-ANP QUE FOC 'If I think incessantly of her, I may [actually] meet her' (MYS 3053)	56
N2	<i>-(a)m.e</i>	1S	FIN or ADV	prediction of possibility	<i>ter.u pi no mo wa ga sode</i> <i>pi-m.e ya</i> shine-ANP sun GEN FOC I=GEN sleeve dry-FUT CON QUE 'Would my sleeves dry even in the bright sun [if I cannot meet you]?' (MYS 1995)	19
N3	<i>-(a)m.u NP</i>	1~3	ADN	downgraded prediction	<i>ap-am.u pi no katami</i> meet-INT-ANP day GEN keepsake 'A keepsake of the day when I will meet you' (MYS 3753)	210
N4	<i>-(a)m.aku wosi</i>	1, 3	ADV	downgraded prediction	<i>kusa~ne no kare-m.aku wosi mo.</i> weed-root GEN wither-FUT NMZ regretful FOC 'It's a pity that the weeds on the shore wither away.' (MYS 435)	31

As represented in Table 7, *-(a)m-* in the construction *-(a)m.aku posi/pori* always expresses a “wish”. In adnominal position, *-(a)m.u* expresses a downgraded (i.e. non-subjective, semantically vague) intention or prediction. The “subjective” prediction-of-possibility use is only found with the form *-(a)m.e*, and there is a morpheme sequence *-(a)m.u/ekamo* that is always sentence-final and always interpreted as prediction (and not intention). Finally, in *-(a)m.aku wosi*, *-(a)m-* expresses a downgraded prediction.

Together with the basic meanings, which I will label here as “V0” and “N0”, respectively, and which are available across contexts, the six constructions and one specific context can be combined into a construction network as below in Figure 3.



**Figure 3:** Construction network of *-(a)m-* in Old Japanese (based on Kōji 1980)

The arrangement of constructions in this figure is based on the principle that semantic-functional similarity is reflected in proximity. The upper part of the figure has the volitive meanings, and the lower part the non-volitive ones. The “desire” meanings are maximally distinct from the prediction meanings, while the constructions with “downgraded” meanings in the middle are close to merger, i.e. tend to be vague between the two basic readings. Furthermore, the axis from left to right represents presumptive (i.e. reconstructed) progress in meaning change, i.e. subjectification, as it is known from the literature (i.e. Traugott and Dasher 2002, Narrog 2012). The meanings labeled as more subjective by Kōji (1980) are therefore placed to the right.

Note that  $-(a)m-$  in  $-(a)m.aku\ pori/posi$  is not necessarily more subjective than the default  $-(a)m-$  “intention” reading, though, because the stronger desire reading must be attributed to the following predicates *pori* and *posi* ‘want’. Overall, Figure 3 also represents a number of hypotheses about how the constructions developed. It is difficult to confirm or reject these hypotheses, though, because historical evidence (i.e. from proto-Japanese) is lacking.

Now we take the same approach to the Modern Japanese uses of  $-(y)oo$ . Here I have built a corpus of my own, made up of 206 megabyte of plain text (about 65 million. morphemes (“tango”)) of Modern Japanese, including 660 novels and short stories ranging from 1889 to 2004, 145 essays, two half-yearly series of the Mainichi Shinbun newspaper, 484 spontaneous conversations, and the non-planned part of the Corpus of Spontaneous Japanese (CSJ). It contains 64,172 instances of  $-(y)oo$ , which is significantly more than what we find in the OJ materials. This unevenness in data, and our better intuitive access to the meanings inevitably hamper any comparison, but nevertheless I believe that some clear-cut tendencies can be established. First of all, the more event-oriented suffix verb  $-(a)m-$  has not only developed morphologically into the mood inflection  $-(y)oo$ , but also the meaning spectrum has become more mood-like, with the first plural hortative ‘let’s’ now being the most frequent, and prototypical meaning and use of  $-(y)oo$ . Again, this is clearly morphological, but arguably also semantic grammaticalization towards more speaker-oriented meaning. But another development is even of greater interest here, namely the differentiation of many specialized form-meaning pairs. The volitive “default” meaning has practically disappeared, while a non-volitive “default” meaning is meanwhile only available in written-style language. What we do find is a large number of very specific constructions into which the erstwhile default meanings have differentiated out. Most of these constructions appear with considerable frequency in the corpora and are therefore likely to be entrenched in language use and in the language user’s linguistic knowledge. Some of them are entirely colloquial while others belong to written style. Because there are so many of them, I split up the volitive uses and the prediction uses into two tables. Table 8 presents the volitive, “V”, uses. The meaning of the new labels is as following. VC means “volitive complement”, VL means “volitive/light verb”, VE “volitive/ellipsis of light verb”, and VN “volitive/adnominal”.

The volitive uses have practically split up into sentence-final performative mood uses mainly for first person subjects on the one hand and adverbial uses with specific complement-taking verbs on the other hand. Adnominal uses are sparse and confined to written style.

Table 9 shows the non-volitive, “N”, meaning range of  $-(y)oo$ . The meaning of the additional new labels is as following. NN means “adnominal non-volitive”, and NA means “adverbial non-volitive”.

Non-volitive uses in general are not bound to a specific person of the subject, although we expect them to be overwhelmingly used with non speech-participant subjects. In their case, a broad default meaning that can be labeled as “presumptive”,

**Table 8:** Volitive constructions with hortative *-(y)oo*

	Morpho-syntactic pattern(s)	Subj.	Pos.	meaning	example	frequency
V1	<i>-(y)oo#/ -(y)oo to</i>	1Pl	F	hortative 'Let's!'	<i>Odor.oo!</i> dance-HOR 'let's dance!'	13404
V2	<i>-(y)oo#/ -(y)oo to</i>	1S	FIN	commissive 'I'll!'	<i>Watasi mo mairi.mas.yoo</i> 1S FOC go-POL-HOR 'I'll go as well!'	1710
V3	<i>-(y)oo(ka)</i>	1Pl	FIN	proposal 'shall we?'	<i>Odor.oo ka?</i> Dance-HOR QUE 'Shall we dance?'	1708
V4	<i>-(y)oo(ka)</i>	1S	FIN/ ADV	self QUESTIONING 'should I?'	<i>kaer.oo ka (to omot.ta)</i> return-HOR QUE (CPL-think-PST) '(I thought) should I go back?'	1936
V5	<i>-(y)oo</i>	2	FIN	indirect imperative 'Let's...!'	<i>Sorosoro tosi o kangae.yoo!</i> Slowly year ACC think-HOR 'Think of your age!'	8
VC1	<i>-(y)oo to omo.u/ kangae.ru</i>	(1)	ADV	complement clause with verbs of 'thinking' – intention	<i>it.te ok.oo to omo.u</i> say-GER put-HOR-CPL think-NPS 'I want to say this'	5561
VC2	<i>-(y)oo to kime.ru/ kokorozas.u</i>		ADV	complement with verbs of intending, deciding etc.	<i>moosikom.oo to kime.ta</i> apply-HOR-CPL decide-PST 'I decided to apply'	358
VC3	<i>-(y)oo to tutome.ru etc.</i>		ADV	complement with verbs of endeavoring	<i>ne.yoo to doryoku-si.ta</i> sleep-HOR-CPL endeavor-do-PST 'I tried hard to sleep'	336
VC4	<i>-(y)oo to kokoromi.ru etc.</i>		ADV	complement with verbs of trying	<i>hikaku-si.yoo to kokoromi.ta</i> compare-do-HOR-CPL try-PST 'I tried to compare [them]'	159
VC5	<i>-(y)oo to kuwadata.ru etc.</i>		ADV	complement with verbs of planning	<i>kakuho-si.yoo to kuwadata.ta</i> secure-do-HOR-CPL plan-PST 'I planned to secure [them]'	126
VL1	<i>-(y)oo to suru</i>		ADV	conative (/immediate prospective) construction	<i>motto yoku mi.yoo to si.ta</i> More good see-HOR-CPL do-PST 'I tried to see [it] better.'	19364

Table 8: Continued

	Morpho-syntactic pattern(s)	Subj.	Pos.	meaning	example	frequency
VL2	–(y)oo to suru (/ to iu)		ADV	immediate prospective construction	<i>hi ga kure.yoo to s.uru</i> sun nom set-HOR-CPL do-NPS 'It is about to get dark'	883
VE1	–(y)oo to. . .		ADV	Adverbial purpose clause	<i>kuwawar.oo to tika-duk.u</i> add-HOR-CPL approach approach in order to join	2498
VE2	–(y)oo ni mo		ADV	Adverbial frustrated effort clause	<i>uta.oo ni mo uta.e.na.i</i> Sing-HOR DAT FOC sing-POT-NEG 'I couldn't sing although I wanted'	166
VN1	–(y)oo tame		ADN	Relative clause with purpose noun	<i>huseg.oo tame</i> Prevent-HOR purpose 'with the purpose of preventing'	23
VN2	–(y)oo yoo		ADN	Relative clause with manner noun	<i>i.oo yoo na.i</i> say-HOR way not.be-NPS 'there is no way to say it'	12

and given the “default” label number P0, has survived. I will give a short example here.

- (29) *Sai.syuusyoku no kikai wa taihen kangei-s.are.yoo.*  
 again-employment GEN opportunity to TOP very welcome-do-PAS-HOR  
 ‘The opportunity for re-employment will surely be welcomed a lot.’  
 (constructed example, based on a real example from the internet)

This reading is found quite frequently in the corpus (11089 instances) and is practically entirely confined to written style. In colloquial language use it is replaced by the particle *daroo*. This basically holds across the board for the non-volitive meanings. All of them belong to written style, or spoken language that mimics written style.

Now, I will again present a construction network, in Figure 4. Space does not allow us to spell out all constructions. They are therefore only represented by their labels in the figure. Furthermore, in order to enhance clarity with this large number of constructions (25), I have arranged them into 8 groups of related constructions. Thus, in comparison to Figure 3, which offered a detailed “micro” view, Figure 4 only offers a “macro” view.

**Table 9:** Non-volitive constructions with hortative *–(y)oo*

	Morpho-syntactic pattern(s)	subj	pos	meaning	example	frequency
N1	<i>–(y)oo(ka)</i>		FIN	Doubt	<i>Dare ga sir.oo?</i> 3S NOM know-HOR 'Who will/should know that?'	2507
NN1	<i>–(y)oo hazu/ wake ga na.i</i>		ADN	Possibility (1)	<i>Waru.kar.oo hazu wa na.i</i> bad-VRB-HOR expectation to TOP not.be 'It can't be bad'	124
NN2	<i>ar.oo koto ka nar.oo koto= nara</i>		ADN	Possibility (2)	<i>Ar.oo koto ka?</i> be-HOR thing QUE 'It's inconceivable!'	22
NN3	<i>to mo ar.oo mono</i>		ADN	Frustrated expectation	<i>gakusya to mo ar.oo mono</i> scholar-FUN FOC be-HOR thing 'someone who should be a scholar'	15
NA1	<i>–(y)oo to (mo)</i>		ADV	Concessive CONDitional with <i>to (mo)</i>	<i>Ame ga fur.oo to kaze ga fuk.oo to</i> rain NOM rain-CNC wind NOM blow-CNC 'Whether it rains or the wind blows, ...'	1341
NA2	<i>–(y)oo ga</i>		ADV	Concessive CONDitional with <i>ga</i>	<i>basya ni nor.oo ga fune ni nor.oo ga</i> coach DAT GET.ON-CNC ship DAT GET.ON-CNC 'Whether by coach or by ship, ...'	677
NA3	<i>–(y)oo (mono=)nara</i>		ADV	Conditional with ( <i>mono=</i> ) <i>nara</i>	<i>Ari ni kam.are.yoo mono nara</i> ant DAT bite-PAS-HOR thing CON 'If you get bitten by an ant, ...'	123
NA4	<i>–(y)oo mono o</i>		ADV	Concessive with <i>mono o</i>	<i>meiyo mo agar.oo mono o</i> honor FOC rise-HOR thing ACC 'Although his honor would rise [then]'	14

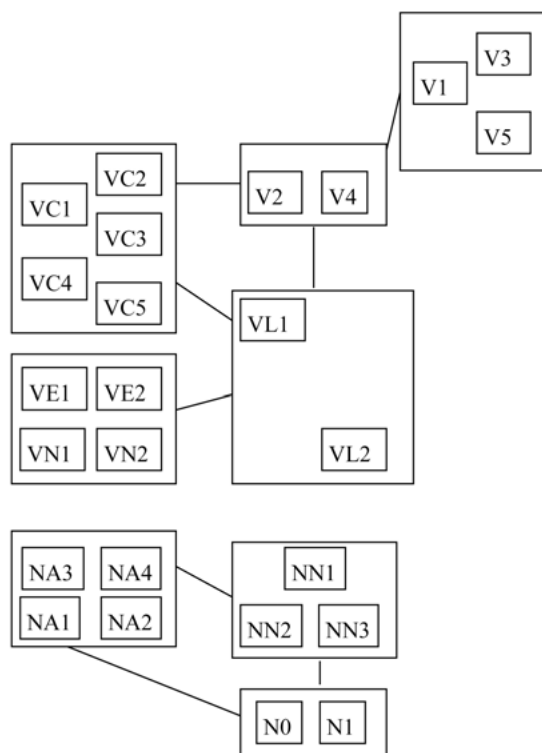


Figure 4: Construction network of ModJ  $-(y)oo$

Like Figure 3, Figure 4 also represents a number of hypotheses about the relationship between the meanings and constructions in Modern Japanese. As there are so many of them, I will outline here only a few observations on which the arrangement of constructions in Figure 4 is based. First of all, since there is practically no ambiguity between volitive and non-volitive readings left, there is also no connection between these areas. On the other hand, we have a fair number of constructions with downgraded intentionality and epistemicity. These are especially the VE and VN on the one hand, and the NA constructions, and to some extent the NN constructions, on the other hand. The adnominal constructions are mostly direct successors of the adnominal constructions extant already in OJ. So this is the part of the functional spectrum of  $-(a)m-$  that made it into Modern Japanese, while the majority of OJ uses is meanwhile extinct. The core of the ModJ volitive uses is strictly performative (V1–V5), and therefore depicted to the right side. Note that the V1 use, which is the core volitive use in ModJ, is not part of the OJ meanings spectrum. In OJ, sentence-final volitive  $-(a)m-$  referred to the speaker alone, and did not include the hearer. V2 may be seen as the most direct successor of OJ V0. There is also some overlap in use, namely in sentence-final position. However, while the OJ default

V0 meaning spread across many contexts, including non-performative ones, ModJ *-(y)oo* (V2) is practically limited to performative contexts. V5 is the most innovative use, which is still relatively rare. The modern default non-volitive use is epistemic and therefore more advanced to the right, and distinctive from the volitive uses than most other non-volitive uses. Lastly, VL2 is an especially intriguing construction. While being derived from a volitive use (VL1), its meaning is mainly aspectual and evidential, so that it tilts towards the non-volitive spectrum.

For methodological reasons, the above comparison is not entirely satisfying. First, we would like to know the full history of this morpheme and its constructions, but to document that would at least require a study of the scale of one or two PhDs, which has yet to be written. Also, as mentioned above, the limited OJ data and our non-intuitive access to them are very different from the large-scale data we have from ModJ and our more intuitive access to them. Nevertheless, I believe that the above description has shown the following. While in my own writing on *-(a)m-/-(y)oo* I have highlighted the fact that its development is characterized by a movement towards the outer, performative, layers and mood-like functions in a layered model of grammar (especially uses V1 to V5), this represents only half of the truth of the development of this item. The other development, which is just as salient, is the almost rampant proliferation of specific form-meaning combinations, i.e. constructions, involving this item. A full account of the grammaticalization of *-(a)m-/-(y)oo* needs both perspectives.

## 5 Conclusion

This article has given an overview of grammaticalization in Japanese, particularly with respect to formal aspects. This topic is still largely underexplored, partially due to the difficulties associated with accessing representative historical data. Section 2 gave an overview of previous studies. In order to explore grammaticalization phenomena systematically, we need an overall idea of grammaticalization. Furthermore, it is advantageous to have a set of criteria that are suitable to determine whether, and to which degree, grammaticalization has taken place. I have attempted to provide a number of criteria for grammaticalization in section 3.1. In section 3.3, I gave a list of phenomena in Japanese language history that would particularly lend themselves to analysis in terms of grammaticalization, and in section 4, a few case studies by myself and by other authors were discussed in detail. I do not consider them as exemplary. Instead it is their deficiencies, paired with only sporadic strengths, that point to what is desirable and necessary in future studies on the topic. I believe that the development of historical corpora, combined with the further increase and development of linguistic theories taking an interest in the study of grammaticalization will increasingly open up exciting research avenues in Japanese grammaticalization.



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# 10 Modality

## 1 Introduction

The definition of ‘modality’ is not straightforward and what the term refers to varies widely among the subfields of linguistics. Notions that have been subsumed under ‘modality’ include: speaker’s attitude, certainty, commitment, subjectivity, necessity/possibility, factuality, evidentiality, etc., none of which seems clearly definable independent of the research traditions and practices within which they are used. The kinds of linguistic phenomena that are subsumed under ‘modality’, and the kinds of structures imposed on them, also vary widely. It is beyond the scope of this chapter to define exactly what ‘modality’ is or what aspects or phenomena of language are to be examined under the term of ‘modality’. Instead, I will focus on the phenomena that have clear relevance to syntax; i.e. elements that are typically referred to as ‘modality’ and the concordance relations – or agreement – between such ‘modality’ items and some other items in the sentence. By exploring such concordance phenomena, I will discuss the relationship between modality and syntax.

We will first briefly look at how modality has been treated in English and in Japanese. Then in section 3, based on recent developments in syntactic research, especially cartography, I will show that the insights and descriptive generalizations expressed in traditional Japanese language studies can be captured in theoretical syntax. Given the direction suggested in section 3, case studies will be presented: an analysis of the phenomenon of person restriction on the subject, which will be examined in section 4, and the peculiar concordance between an adverbial *to*-temporal clause and main clause types, which is dealt with in section 5. Section 6 offers a summary.

## 2 Modality phenomena: how they have been considered

### 2.1 Modality in English

As stated above, various notions are subsumed under the term ‘modality’. Similarly, in terms of linguistic phenomena, various grammatical constructions may be included. Portner (2009), for example, who examines modality in terms of semantics and pragmatics, considers ‘modality’ as “the linguistic phenomenon whereby grammar allows one to say things about, on the basis of, situations which need not be real (p. 1)”,

including the following expressions and constructions among others. (See also Palmer 2001)

- (1) Sentential Modality
  - a. Modal auxiliaries: *must, can, should*, etc.
  - b. Modal verbs: the semi-modals, such as *need (to), ought (to)*, etc.
  - c. Modal adverbs: *maybe, probably, possibly*, etc.
  - d. Generics, habituals, and individual-level predicates
  - e. Tense and aspect
  - f. Conditionals
  
- (2) Sub-sentential Modality
  - a. Modal adjectives and nouns: *possible, necessary, certain*, etc.
  - b. Propositional attitude verbs and adjectives: *believe, pleased*, etc.
  - c. Verbal mood, the indicative and the subjunctive, in particular.
  - d. Infinitives
  - e. Negative polarity items
  
- (3) Discourse Modality
  - a. Evidentiality
  - b. Clause Types
  - c. Performativity

(Portner 2009: 5–8)

From the list above, we may say that practically any linguistic phenomenon can be included under ‘modality’. If there is anything that may be excluded from ‘modality’, it would be the core part of a sentence, that is, the proposition: a predicate and its argument. Fillmore (1968), for example, in fact expresses the view that a sentence consists of a proposition and a modality: i.e. sentence  $\rightarrow$  a proposition + a modality.

The phenomena listed in (1) have been subject to generative syntactic studies, however, they have not been dealt with as a whole or under the single umbrella term ‘modality’. They are treated as separate and somewhat independent phenomena, or as item specific characteristics. For example, modal auxiliaries (1a), the most typical ‘modality’ in English are analyzed as predicates that take either the control construction in deontic use or the raising construction in epistemic use. The former, as shown in (4a), takes a subject that is identical with the subject of the main verb. In the latter, the matrix subject position is not a thematic position, so that it is filled either by an expletive or by raising the lower subject to it, as shown in (4b).

- (4) a. He must study hard. (deontic)  
       [he must [(he) study hard]
- b. He must be tired. (epistemic)  
       [ $\phi$  must [he be tired]  $\rightarrow$  [he must [t be tired].

Similarly, modal adjectives and propositional attitude verbs in (2) are treated in terms of complement selections, for the most part, the control type or the raising type, as in the case of modal auxiliaries. Another option is for the complement to be either finite or non-finite (cf. Rosenbaum 1967). Other phenomena, such as generics and individual level predicates (1d), tense and aspect (1e), and clause types (3b) have been discussed in terms of functional categories, such as vP, IP, and CP. And those like conditionals (1f) and negative polarity items (2e) have been examined as independent constructions, etc. (cf. Emonds 1976) That is, in syntactic tradition, the phenomena in (1)–(3) have been examined and analyzed as separate and independent phenomena and there does not seem to be an obvious reason to treat these phenomena under the single term ‘modality’. All that can be extracted from the above phenomena is simply that they all involve more than a proposition, namely, Fillmore’s characterization mentioned above. In short, syntax has not investigated modality extensively as a single phenomenon or a construction that covers from (1) to (3). This is not surprising, in view of the fact that generative syntax started out as a research program that structurally accounts for the structure of propositions (cf. Chomsky 1957, 1965, 1981, 1986, etc.).

## 2.2 Modality in Japanese

Let us now turn to the research tradition of Japanese language studies, *Kokugo-gaku*, traditional Japanese language studies, and *Nihongo-gaku*, modern Japanese linguistics. In these traditions, modality has been one of the most widely investigated topics. Though the definition of modality in these traditions may also not be completely uncontroversial, the definition in (5) seems to have been relatively well-accepted. (Masuoka 1991, 2007; Nitta 1991; Moriyama 1988; Noda 1995; Noda et. al 2002; Pizziconi and Kizu (eds.) 2009; Narrog 2009; etc.)

- (5) Modality:  
       Modality (i) expresses the speaker’s attitude toward and judgment on the content of a proposition, and (ii) refers to the elements that express (i).

Though this definition still covers quite a variety of phenomena, given that Japanese typically expresses ‘the speaker’s attitude or judgment’ at the end of a sentence, much study has been devoted to sentence final elements. For example, sentences in (6) all involve the content expressed in a simple proposition (7) but differ from each

other with respect to the sentence final elements: *daroo* ‘probably, (I) guess’ in (6a), *kamosirenai* ‘might, possible’ in (6b), *rasii* ‘likely, seem’ in (6c), *nasai* ‘polite imperative, should’ in (6d), and *-(y)oo* ‘volitional’ in (6e), which all express the speaker’s attitude in one way or other. Thus, in view of (5), these elements are considered to be modality expressions.

- (6) a. *Hanako ga Boston e iku daroo.*  
 Hanako NOM Boston to go guess  
 ‘I guess Hanako will go to Boston.’
- b. *Hanako ga Boston e iku kamosirenai.*  
 Hanako NOM Boston to go might  
 ‘Hanako might go to Boston.’
- c. *Hanako ga Boston e iku rasii.*  
 Hanako NOM Boston to go seem  
 ‘Hanako seems to go to Boston.’
- d. *Hanako ga Boston e iki-nasai.*  
 Hanako NOM Boston to go-polite.IMP  
 ‘Hanako (you) go to Boston.’
- e. *Watasi ga Boston e ik-oo.*  
 I NOM Boston to go-VOL  
 ‘I will go to Boston.’
- (7) {*Hanako / Watasi*} *ga Boston e iku.*  
 Hanako / I NOM Boston to go  
 ‘Hanako / I will go to Boston.’

These underlined sentence final elements are categorized with respect to their functions: epistemic modality, exemplified in (6a), (6b), and (6c), which expresses the speaker’s certainty or judgment on the realizability of the proposition (7), and discourse or speech act modality, which indicates the discourse function of the proposition, such as imperative, as in (6d), by which the speaker induces the addressee to realize the event expressed by the proposition, and volitional, as in (6e), by which the speaker expresses her intention to realize the event. These two types, which differ in meaning and function, also show distinctive characteristics in syntactic behavior. As pointed out by Nitta (1991) (see also Ueda 2007), epistemic modality can be followed by the conjunction *ga* ‘but’, but discourse modality cannot.<sup>1</sup>

<sup>1</sup> Conjunctions that distinguish epistemic modality and discourse modality are of the C-type conjunctions, in the sense of Minami (1997), which include *ga* ‘but’, *kedo* ‘though’, etc. See the discussion below around (15) for Minami’s clause types.



- (8) a. *Hanako ga Boston e iku {daroo/kamosirenai/rasii} ga,*  
 Hanako NOM Boston to go {guess / may / seem} but  
*Taro wa ika-nai ({daroo/kamosirenai/rasii}).*  
 Taro TOP go NEG {guess / may / seem}  
 ‘(I guess) Hanako {might / seems to} go to Boston, but Taro will not.’
- b. \**Hanako ga Boston e iki-nasai ga, Taro wa iku na.*  
 Hanako NOM Boston to go-polite.IMP but Taro TOP go NEG.IMP  
 ‘Hanako, (you) go to Boston, but Taro, don’t.’
- c. \**Watashi ga Boston e ik-oo ga, Taro wa ika-nai.*  
 I NOM Boston to go-VOL but Taro TOP go-NEG  
 ‘I will go go to Boston, but Taro won’t.’

This follows from the fact that discourse modality is relevant to main clauses, where the role of the clause in discourse or its speech act function is specified: question, request, imperative, assertion, etc. Epistemic modality, on the other hand, expresses the speaker’s judgment or (un)certainly concerning the propositional content, which itself is independent of how the entire utterance functions in the given discourse, and can be conjoined with another sentence that may contain yet another epistemic modality, as shown in (8a).

With respect to morphological forms, epistemic modality is further divided into two categories: genuine modality, which does not inflect for tense, such as *daroo* ‘(I) guess’ and *-mai* ‘would not’, and quasi modality, which does inflect for tense, e.g. *kamosirenai* ‘might’, *rasii* ‘seem’, etc.<sup>2</sup> This is shown below.

- (9) a. *Hanako ga Boston e iku {daroo/\*daroo-ta/ru}.*  
 Hanako NOM Boston to go guess / guess-PERF / IMPERF  
 ‘I guess Hanako will go to Boston.’
- b. *Hanako wa Boston kara kaeru {mai/\*mai-ta/ru}.*  
 Hanako TOP Boston from return would.not / would.not-PERF/IMPERF  
 ‘Hanako would not return from Boston.’
- (10) a. *Hanako ga Boston e iku {kamosirenai/kamosirenakat-ta}.*  
 Hanako NOM Boston to go might / might-PERF  
 ‘Hanako might go to Boston / It might have been that Hanako would go to Boston.’

<sup>2</sup> Note incidentally that discourse modality is genuine modality to the extent that it does not take a tense element (see *-nasai* ‘polite imperative’ exemplified in (6d), the volitional form *-(y)oo* in (6e)). We will discuss discourse modality more extensively in section 3.

- b. *Hanako ga Boston e iku {rasii / rasikat-ta}.*

Hanako NOM Boston to go seem / seem-PERF

‘Hanako {seems / seemed} to go to Boston.’

- c. *Hanako ga Boston e iku {hazu-da / hazu-dat-ta}.*

Hanako NOM Boston to go must.be.the.case-IMPERF / PERF

‘Hanako must be going to Boston / Hanako was supposed to go to Boston.’

Examples (9) involve genuine modality and a tense marker, either the perfective *-ta* or the imperfective *-ru*, may not occur with these modality expressions. The modality expressions in (10) exhibit tense inflection and are considered quasi modality.<sup>3</sup>

To summarize, even with the rather coarse observation above of the sentence final, or the right periphery part, of Japanese sentences, we obtain the following descriptive generalizations:

(11) The Categorization of Modality Expressions

- a. Based on functions: (i) epistemic modality vs. (ii) discourse modality – the former can be followed by the conjunction *ga* while the latter shows up only at the sentence final position of the main clause.
- b. Based on morphology: (i) genuine modality vs. (ii) quasi modality – (i) does not inflect for tense.

In addition to the modality expressions shown in the above examples, sentence final particles such as *ka* ‘question marker’, *ne* ‘confirmation marker’, and *yo* ‘assertion marker’ have been considered as discourse modality, since they indicate what discourse function a sentence assumes (cf. Inoue 1976, 2007; Masuoka 1991; Nitta 1991; Endo 2007, 2010; etc.). Given that a sentence final particle comes at the end of a sentence, the order of epistemic modality and discourse modality can be clearly determined. That is, epistemic modality precedes discourse modality. This is exemplified in the following examples, where the epistemic *daroo* ‘(I) guess’ precedes the sentence final particle *ka* ‘Q’.

- (12) *Hanako ga Boston e iku daroo ka.*

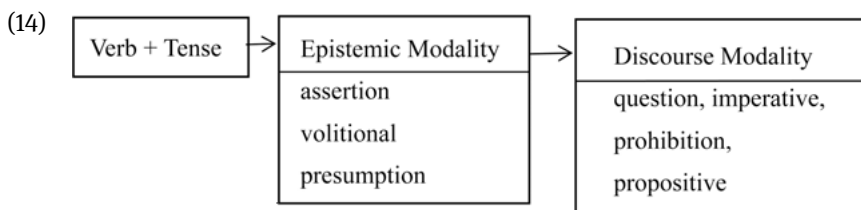
Hanako NOM Boston to go guess Q

‘I wonder whether Hanako will go to Boston.’

In the generative tradition, Inoue (1976), providing examples like (13), proposes that a Japanese sentence involves verbal elements of the following kinds appearing at the end of a sentence in the order shown in (14).

<sup>3</sup> In view of the characteristics of quasi modality expressions that they inflect for tense and are preceded by a proposition that has an independent tensed predicate, Nakau (1973) and Inoue (1976, 2007), for example, analyze them as predicates that take a complement clause. The tense on a modality expression marks the tense of the probability judged by the speaker, which can be independent of when the expressed event takes place.

- (13) *Taro ga hon o yakusi<sub>A</sub>] te-i<sub>B</sub>] ru<sub>C</sub>] daroo<sub>D</sub>] ne<sub>E</sub>]*  
 Taro NOM book ACC translate PROG PRES guessl confirm  
 where A: proposition, B: aspect, C: tense, D: Epistemic Modality,  
 E: Speech Act Modality  
 ‘Taro will be translating the book, won’t he?’ (cf. Inoue 1976)



Inoue (2007: 242)

Consideration of the size of the subordinate clauses has also been the topic of research on modality in Japanese. Minami’s (1974) proposal that clauses come in four different sizes and that a larger one may contain a smaller one has been widely assumed. Takubo (1987) refines Minami’s proposal and presents (15).

- (15) a. A-type: (manner/degree adverbs) + arguments + predicate<sub>[stem/voice]</sub>  
 b. B-type: (restrictive modifiers) + Nominative + *A-type* + (Negation) + tense  
 c. C-type: (non-restrictive modifiers) + Topic + *B-type* + (Epistemic Modal)  
 d. D-type: (vocative) + *C-type* + sentence final particles<sub>[Speech Act Modality]</sub>  
 (cf. Takubo 1987)

The validity of these layers can be seen in the account of the three types of conditionals, *-eba*, *-tara*, and *-nara*, which correspond to A-type, B-type, and C-type, respectively. (cf. Masuoka 2009; Takubo 2010)

- (16) a. *Ame ga hur-eba, siai wa tyuusi da.*  
 rain NOM fall-if game TOP cancel copula  
 ‘If it rains, the game will be canceled.’  
 b. *Ame ga hut-tara, siai wa tyuusi da.*  
 rain NOM fall-PERF.if game TOP cancel copula  
 ‘If it rains, the game will be canceled.’  
 c. *Ame ga hur-u-(ni-tigainai)-nara, siai wa tyuusi da.*  
 rain NOM fall-IMPERF-(should)-if game TOP cancel copula  
 ‘If it (is strongly probable that it) rain(s), the game would be (better to be) canceled.’

The *-eba* conditional, which does not contain a tense morpheme *-ru* or *-ta*, expresses just propositional content, i.e. a clause of A-type, while the *-tara* conditional, as the morpheme *-ta* indicates, involves the tense morpheme, the element allowed in B-type. The *-nara* conditional can involve not only a tense morpheme but an epistemic modal, like *ni-tigainai* ‘strongly probable, should’ or *kamosirenai* ‘might’, which is an indication of C-type.

With respect to (15), expressions relevant to discourse modality would be categorized as elements that belong to D-type, the clause of the largest size or the top-most layer of a clause. In view of these considerations, it has widely been accepted in Japanese studies that Japanese sentences are layered, where the core part (i.e. propositional content) is encapsulated inside the tense layer, which is inside the modality layer. Masuoka’s (2007) figure (17) illustrates how Japanese sentences are hierarchically structured.<sup>4</sup>

(17) The Sentential Hierarchy in Japanese

levels	grammatical items		
	head	arguments	adjuncts
(a) Propositional Event	predicate voice	case-related items (argument)	adverbs of manner, degree, quantity, etc.
(b) Individual Event	aspect tense		aspectual adverbs time, place, etc.
(c) Epistemic Modality	T/F judgment value judgment		<i>tabun</i> ‘probably’ type <i>muron</i> ‘needlessly’ type <i>ainiku</i> ‘unfortunately’ type
(d) Speech Act Modality	speech act type politeness speaker’s attitude		<i>dooka</i> ‘please’ type <i>zituwa</i> ‘in fact’ type

(cf. Masuoka 2007: 21)

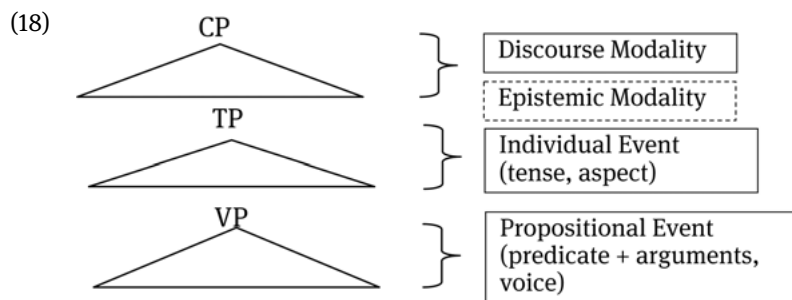
In 2.1, we referred to Fillmore’s (1968) view that a sentence consists of a proposition and modality, which was based primarily on semantic considerations of what sentences

<sup>4</sup> Similar hierarchies are provided also in Noda (1995) and Nitta (1991). Different researchers use slightly different terminologies and they may also differ in how they consider these levels, structurally and characteristically independent from other layers, or gradually extending without clear boundaries. We will not discuss how closely the layers, (a), (b), (c), and (d) of (17), correspond with Minami’s clause types, A, B, C, and D, either. See also Iori (2001).

In (17), not only items involved in predicates, what is listed under ‘head’, but also adverbial adjuncts, which typically appear at the beginning of a sentence, are listed. We will come back to adverbs at the discourse level in section 5.

involve. Note that this cannot easily be deduced from syntactic observations on languages like English, a head initial language, since there is no obvious syntactic position that is clearly designated for modality and which is structurally separated from the proposition. More concretely, with the most typical modality elements of English, for example, modality auxiliaries, being placed in the middle of a sentence, it is not obvious exactly where a modality element stands in relation to the position of the items necessary for the propositional content. Hence, a generalization like (17) has not been straightforwardly obtained in head initial languages like English. Japanese, on the other hand, exhibits the hierarchical structure of proposition and modality in a much more discernible way due to its predicate final nature, where relevant elements are clearly ordered at the end (or at the right periphery) of a sentence (Hasegawa 2010b).

Japanese thus exhibits ample evidence for how modality elements are structurally represented. It is straightforward to interpret the hierarchy in (17) in terms of syntactic categories: VP, TP, and CP.<sup>5</sup>



By interpreting the sentential hierarchy of Japanese in this way, we are now able to discuss in a systematic way where modality takes place in syntactic structure in relation to tense and propositional content. That is, modality (an element at C head) selects a TP as its complement, which then embeds a VP. Furthermore, given a structure like (18), there would be some phenomena that are located at C, a functional category that typically exhibits concordance or agreement between its head and Spec. We will show below that the phenomenon of person restriction observed between the subject and discourse modality is in fact such a phenomenon.

<sup>5</sup> The terms, propositional event and individual event, are due to Masuoka's (17). The propositional event, which involves arguments of a predicate with voice features, may be represented as vP, VP, VoiceP, etc. depending on how finely the predicate part of the sentence is structurally mapped in category. In (18) and in the following, the category VP is adopted, to simply show that it is the category whose main head is a verb. The individual event involves a tense element which specifies the propositional event in reference to tense; which thus is represented as TP (or IP). As for epistemic genuine modality, it is not clear exactly where it is placed. See Ueda (2007) for relevant discussion.

## 2.3 Modality and Person Restriction

Japanese has been considered to be a non-agreement language, since it does not exhibit subject-predicate agreement in ordinary indicative clauses (cf. Fukui 1986; Kuroda 1988). This is shown in (19a), which can be compared with English, where a verb is to be marked by *-s* in the present tense context, agreeing with a third person singular subject.

- (19) a. *{Watasi/Taroo/Karera} ga mainiti kooen de hasir-u.*  
 I / Taro / they                      NOM everyday park in jog-IMPERF  
 ‘{I / Taro / They} jog(s) in the park every day.’
- b. *I jog*  
*Taro jogs* } *in the park every day.*  
*They jog*

Despite the above consensus among Japanese generativists, it has been noted in Japanese studies (Nitta 1991; for example) that Japanese does exhibit subject-predicate agreement once discourse modality is considered.<sup>6</sup> Relevant examples are shown below.

- (20) a. *φ / {Omae/Hanako} ga kotti e ko-i / ki-nasai.*  
 you / Hanako                      NOM here to come-IMP / come-POL.IMP  
 ‘{φ / You / Hanako} come here!’
- b. *φ / {Omae/Hanako} ga kotti e kuru-na.*  
 you / Hanako                      NOM here to come-NEG.IMP  
 ‘{φ / You / Hanako} don’t come here!’
- c. *φ / {Watasi/\*Hanako/Watasi-to-Hanako} ga iki-masyoo.*  
 I / Hanako / I and Hanako                      NOM go-PROPOSITIVE  
 ‘{φ / I / \*Hanako / Hanako and I} shall go.’
- d. *φ / {Watasi/\*Kimi / \*Hanako} ga sugu ik-oo.*  
 I / you / Hanako                      NOM soon go-VOL  
 ‘{φ / I / \*You / \*Hanako} will go right now.’

These examples end with a discourse modality marker; imperative or polite imperative, *-i* (or *-e/ro*) or *nasai*, respectively, in (20a), prohibition or negative imperative *-na* in (20b), propositive or exhortative in the sense of ‘shall we/I’ *-masyoo* in (20c), and volitional *-(y)oo* in (20d). In these sentences, the subject can be null but its

<sup>6</sup> Basically the same phenomena are observed in Korean, according to Pak (2006).

person cannot be arbitrary or just anyone mentioned in the discourse. The subject must be a participant in the given discourse, not a third person in an ordinary sense. That is, in these sentences with discourse modality, the subject should be either the addressee or the speaker, depending on which discourse marker is used. The subject must be the addressee in (20a) and (20b), whose discourse function is imperative, and it should be the speaker in (20c) and (20d), the function of which is to encode the speaker's intention or willingness for the realization of the event.

The most interesting and exciting syntactic phenomenon, which crucially shows that structural accounts are called for, is a concordance relation between two items in a sentence. The subject-predicate agreement observed in (19b) in English is such an example. Then, it seems natural to consider that the facts in (20) ought to be accounted for by the same, or a similar, syntactic mechanism.<sup>7</sup>

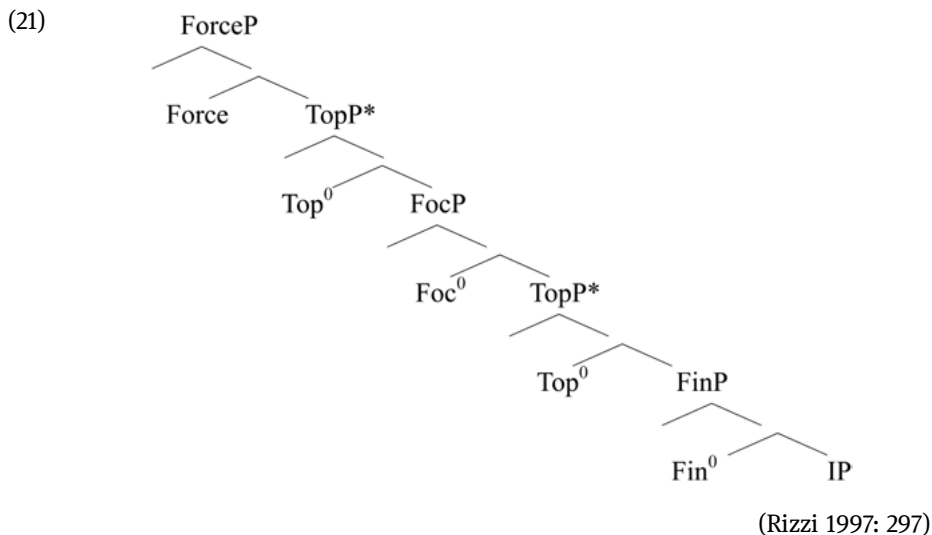
### 3 The C-System and its Periphery

In the early stages of generative grammar, i.e. standard theory and extended standard theory including the Principle and Parameter framework (or GB theory), syntactic derivation starts out from D-structure, where the lexical information (i.e. argument arrays) of a predicate is satisfied; in other words, the level where the theta criterion is met (cf. Chomsky 1957, 1965, 1981). In such a framework, the immediate concern is about how arguments are realized in syntactic structure at the surface level and what rules and mechanisms are responsible for their realization. In the course of theoretical developments, attention has shifted from arguments themselves, which involve content words or lexical categories, to functional categories, as far as structural building is concerned. Toward the end of the PP framework and the initial stage of the Minimalist program, functional categories came to be considered responsible for building sentential structure, in which the head of a functional category

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<sup>7</sup> The subject-predicate agreement seen in (19b) for example is taken as the core case of agreement, for which the relevant agreeing features are the so-called  $\phi$  features, [person, number, and gender]. In the generative tradition, the notion of 'agreement' is further extended to phenomena that involve some concordance relations between two items. Thus, *wh*-interrogatives, for example, are considered to exhibit grammatical agreement between the occurrence of a *wh*-word and a particular marking at C, in spite of the fact that there is no obvious  $\phi$  feature agreement between the two. As a reviewer pointed out, it is theoretically significant to examine what the grammatical process of agreement is and whether it is appropriate to consider the concordance between two items that do not involve  $\phi$  features to be the same agreement process as one with the  $\phi$  features. In this sense, the subject and modality concordance (or 'agreement') observed in (20), and another phenomenon to be taken up in section 5, may provide interesting cases for such investigation. However, to do so in this chapter would lead us too far into overly technical and theory-bound discussions. The use of the term 'agreement' in this chapter will thus be kept rather intuitive and the subject-modality concordance in (20) will be considered as an instance of 'agreement'.

requires the occurrence of the item that agrees with it at its specifier position. As for TP, the subject moves from the VP (or vP) internal subject position to the TP-Spec position due to agreement with a tense (T) element. In the case of CP, a *wh*-item, an interrogative phrase, for example, moves from an argument position inside TP to a CP-Spec position, due to the question feature at the C-head, which marks the basic sentential function: declarative, interrogative, subordination, etc. Furthermore, the role of functional categories has become more specifically clarified and the structure of the functional categories, TP and CP, in particular, has been elaborated. Pollock (1989) initiated this move by splitting the TP region into several sub-heads and Rizzi (1997) extended it to the CP region, proposing the layered CP structure (21).<sup>8</sup>



Rizzi developed this structure by examining phenomena that make use of the left periphery (or initial part) of a sentence. The facts taken up include the following.<sup>9</sup> The items that are to be particularly noted as relevant to structure (21) are italicized.

- (22) a. *What* will you buy?  
 b. *That kind of behavior*, we cannot tolerate in a civilized society.  
 c. *No other colleague* would he turn to.  
 d. I am absolutely convinced [*that no other colleague would* he turn to].

<sup>8</sup> Rizzi (1997) uses IP for a functional category that is selected by CP. We use TP in the following, instead.

<sup>9</sup> Rizzi (1997) mainly considers Italian examples. Here, the English examples equivalent to Italian are presented, which are due to Radford (2004).



- e. Syntax is the kind of subject [*which only very rarely will* students enjoy].
- f. A university is the kind of place [*in which, that kind of behavior,* we cannot tolerate].
- g. He prayed [*that atrocities like those, never again would* he witness.].  
(cf. Radford 2004: 327–336)

Various items make use of the left periphery region; *Wh*-question (22a), Topicalization (22b), and Negative Inversion (22c), all involve movement of an item from inside TP to the CP region. Examples (22d)–(22f) show that a sentence involving the elements moved to the left periphery can be embedded inside a factive complement, as in (22d), and a relative clause, as in (22e) and (22f). Furthermore, (22g) suggests that more than one item can appear at the left periphery following the complementizer, namely, *that*: the topic *atrocities like those*, the negative item *never again*, and the inverted auxiliary *would*.

Supported by facts such as (22), Rizzi describes how the C-system is considered in syntax.

- (23) a. We can think of the complementizer system as the interface between a propositional content (expressed by the IP) and the superordinate structure (a higher clause or, possibly, the articulation of discourse, if we consider a root clause). As such, we expect the C system to express at least two kinds of information, one facing the outside and the other facing the inside.  
(Rizzi 1997: 283)
- b. I will then assume that the C system expresses a specification of finiteness, which in turn selects an IP system with the familiar characteristics of finiteness: mood distinctions, subject agreement licensing nominative case, overt tense distinctions.  
(Rizzi 1997: 284)

What is extracted from Rizzi's description of the structure in (21) involves the following. (i) Force specifies the function or clause type of a sentence; a main clause or a subordinate clause. If it is a main clause, Force specifies the discourse function of the sentence such as a question, declarative, imperative, etc. If it is a subordinate clause, it marks whether it is a factive clause, relative clause, infinitive clause, etc. (ii) At the subcategory TopP, the head, Top(ic) attracts a topic phrase at its specifier. (iii) At FocP, Foc(us) hosts a focus element such as a negative phrase and a *wh*-question. And (iv) Fin encodes the 'rudimentary' temporal property of a clause, according to Rizzi (1997: 283), which is morphologically manifested at T of TP, which may be attracted to Fin when some features on Force so induce; e.g. questions, focus constructions with a negative item at FocP, or inverted conditionals.

The description and function of modality we have entertained in previous sections would fit right into this view of the C-system. English, a head initial language, and Japanese, a head final language, differ in where these functions are most obviously observed – at the left periphery (the clause initial part) in English and at the right periphery (the clause final part) in Japanese. That is, the order of the elements in a predicate expression in Japanese is supposed to be the mirror image of the order of the specifier elements in English.<sup>10</sup>

In next section, we will return to the sentences in (20), which, as we have seen, represent different discourse functions: Imperative in (20a, b), Propositive in (20c), and Volitional in (20d), which are different from ordinary declarative or interrogative functions. Such functions are to be marked as such at Force in terms of the structure (21). Since the person restriction on the subject in (20) is due to the presence of a discourse modality marker, we will take the phenomenon as agreement between Force and the subject, to which we now turn.

## 4 Agreement at CP: Discourse modality and the subject

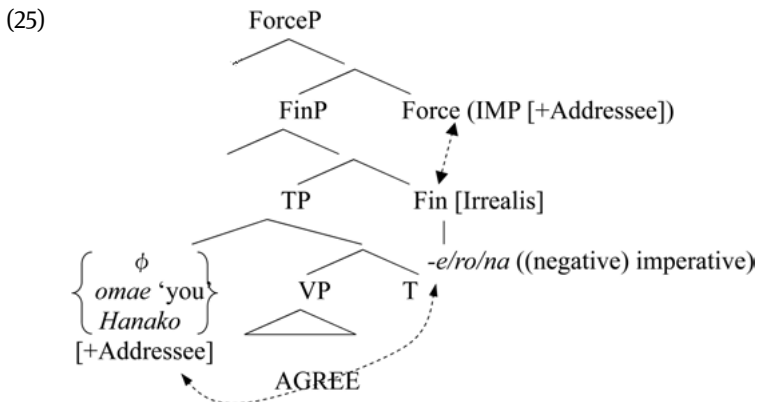
Hasegawa (2009, 2010c) accounts for the phenomena seen in (20), the concordance relation between certain discourse modality expressions and the subject, by referring to the CP structure in (21). Let us take the case of Imperatives (20a, b) as a representative. The facts to be captured are given in (24).

- (24) a. Imperatives assume the discursal force of imperative.
- b. The modality expressions that mark ‘imperative’ are above the tense marker, which is clearly seen in the negative imperative of (20b), where *-na* ‘don’t’ follows a predicate with a tense marker.
- c. The subject of an imperative is ‘the addressee’, which may be lexicalized as *omae* ‘you-vulgar’ or omitted ( $\phi$  indicates that the subject can be null).
- d. Despite (24c), it appears that the 3rd person (e.g. *Hanako* in (20a, b)) may serve as a subject of an imperative.
- e. The 3rd person subject of imperatives, however, does not refer to an ordinary 3rd person individual, but the individual that should be referable as the addressee.

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<sup>10</sup> The validity of Rizzi’s view and structure for analyzing various syntactic phenomena of Japanese has been discussed and demonstrated (e.g. Endo 2007, 2010; Hasegawa 2009, 2010a, 2010c, 2011, 2012; Saito 2012). In the following, we will take up only a couple of phenomena; the one observed in (20), which will be taken up immediately below, and the *to*-temporal phrase, to be discussed in section 5. See also section 6.

Along the spirit of (23a), it is assumed in Hasegawa (2009, 2010c) that imperatives have a distinctive force marked at Force (say, [IMP(erative)]), which specifies the ‘irrealis’ tense on Fin.<sup>11</sup> As will be argued below, imperative modality takes place at Fin, which in turn specifies the particular morphological form at T. As for the agreement between the modality and the subject, the imperative status [IMP] involves the addressee feature [+Addressee], which licenses or forces the existence of the subject that is compatible with ‘the addressee’. As noted in (24d), 3rd person nominals like *Hanako* are allowed as a subject for imperatives, to the extent that they are among the addressees to whom the utterance is addressed. That is, the 3rd person subject in imperatives is not a true 3rd person but merely disguised as such. It is the second person, or rather the addressee, in reality, that is the DP that is compatible with the [+Addressee] feature required by Force [IMP].<sup>12</sup>



(cf. Hasegawa 2009: 8; 2010c: 47)

The negative imperative (20b), for example, repeated here as (26), clearly shows that an imperative morpheme makes use of the CP region, given that *-na* follows the tense morpheme, *-(r)u*.

- (26)  $\phi$  / {*Omae* / *Hanako*}    *ga*    *kotti-e*    *kuru-na*.  
           you / Hanako            NOM    here-to    come-IMP  
           ‘{ $\phi$  / You / Hanako} don’t come here!’

<sup>11</sup> The discursual or speech act function of imperatives is distinct from that of indicatives or questions. Imperatives are not descriptions of events but rather the speaker’s requests given to the addressee for the realization of the event expressed. Given this distinctive function, it is natural to consider that the imperative status of a sentence is to be marked at Force, in the sense of Rizzi’s (1997) structure (21), and the tense or Fin feature of imperatives to be considered ‘irrealis’ with the content of the proposition having been not realized at the time of the utterance.

<sup>12</sup> We will take up imperatives in English and discuss more clearly the nature of a 3rd person subject in imperatives.

In addition, there is evidence that shows the negative imperative morpheme *na* appears structurally higher than the subject position. Relevant examples involve the *mo* ‘also’ phrase. Observe the following.

- (27) a. *Hanako mo sono hon o yon-da.*  
 Hanako also that book ACC read-PERF  
 ‘(Beside someone else) Hanako also read that book.’
- b. *Hanako ga sono hon mo yon-da.*  
 Hanako NOM that book also read-PERF  
 ‘Hanako also read that book (beside some other book).’
- c. *Hanako mo sono hon o yom-anakat-ta.* \*not > also also > not  
 -NEG-PERF  
 ‘(Beside someone else) Hanako also didn’t read that book.’
- d. *Hanako ga sono hon mo yom-anakat-ta.* \*not > also also > not  
 ‘Hanako also didn’t read that book (beside some other book).’
- (28) a. {*Hanako/Kimi*} *mo sono hon o yom-u na.* not > also also > not  
 Hanako / you also -NEG.IMP  
 ‘(lit.) Don’t Hanako / you also read that book!’
- b. *φ Sono hon mo yom-u na.* not > also also > not  
 ‘Don’t also read that book!’

What we are interested in is the scope relations between negation and the *mo*-phrase in (27c), (27d), and (28). Are the following two readings possible in (27c), for example?

- (29) a. *also > not*: Hanako didn’t read that book in addition to some other book that she also didn’t read.
- b. *not > also*: Hanako read at least one book but it is not the case that she also read that book.

In indicative sentences (27c) and (27d), only the *also > not* reading (29a) is possible. This indicates that the *mo*-phrase always takes scope over negation, which is supposed to be somewhere below the tense marker (*-ta* ‘past’ in (27)). Due to these facts (and others), Hasegawa (1990, 1994, 2005) argues that the *mo*-phrase is at Spec of TP (or higher) and c-commands the negation *nai*. (See also Miyagawa 2010)

In the negative imperatives in (28), on the other hand, the *not > also* reading is possible. In this interpretation, the speaker orders the addressee not to read that book, while allowing reading at least one other book. The availability of this reading

indicates that *na*, the (negative) imperative marker, takes scope over the *mo*-phrase, which in turn suggests that *na* is above TP and somewhere inside CP, most probably Fin. The analysis for imperatives provided here can be extended to other discourse modality cases, *-masyoo* propositives and *-(y)oo* volitionals. Force, marked as such, specifies what subject is required, the 1st person or the speaker, for these cases. Fin hosts the modality expression, which agrees with the [+Speaker] subject.

## 4.1 Imperatives in English

The analysis for imperatives in Japanese discussed above naturally extends to imperatives in English. Let us review some basic facts. Observe (30).

- (30) a. Open the door.      Be quiet.  
       b. You be quiet.  
       c. Behave yourself.    Use your own pen.

Imperatives lack a subject and the predicate is in the infinitive form. The missing subject is assumed to be 'you' and this *you* may in fact show up as in (30b). The assumed subject *you* explains the occurrence of the anaphoric expressions, *yourself* and *your own* in (30c), which require antecedents, or binders, at some level where they are licensed (i.e. at LF). Given these facts, the subject of an imperative has been considered as 'you', which can be 'deleted' (perhaps in PF). However, the hypothesis that the subject 'you' is deleted cannot easily be maintained once the so-called '3rd person' imperatives are taken into consideration (these are equivalent to the 3rd person subject of Japanese imperatives (20a, b)). Observe (31).

- (31) a. Somebody open the door, will {you / \*he}?  
       a'. Someone opens the door everyday, doesn't he?  
       b. Everybody<sub>i</sub> take off {your<sub>i</sub> hat / \*his<sub>i</sub> hat}.  
       b'. Everybody<sub>i</sub> takes off {\*your<sub>i</sub> hat / his<sub>i</sub> hat}.  
       c. John come here, and Mary stay there!

Examples (31a) and (31b) indicate that the subject other than 'you' can show up. What is interesting is the fact that, even though the subject is in the form of the 3rd person, the subject in the tag is *you* and the pronoun in the object that refers to the subject is 2nd person *your*. This is in contrast to (31a') and (31b'), ordinary indicatives with the 3rd person subject, which have the 3rd person *he* in the tag and *his* in the object. Example (31c) indicates that proper nouns can be the subject of imperatives, as long as their referents are included in the group to which the imperatives are

addressed. Note that these imperatives do not exhibit third person agreement on the predicate, which is mandatory in indicatives. The facts in (31) suggest that imperatives do involve ‘the addressee’ as the subject but ‘the addressee status’ is not necessarily expressed by the 2nd person pronoun ‘you’ but can be disguised by the 3rd person subject without triggering the 3rd person morphological agreement. Thus, the facts about the 3rd person imperative in English provides a clearer and stronger piece of evidence than the Japanese cases for the nature of the agreement feature involved in imperatives, [+Addressee] not [2rd person].

As for the position of the imperative subject, the negative imperative is suggestive, as we saw for negative imperatives in Japanese.

- (32) a. Don’t you say anything! Don’t you be stupid! (imperative)  
       a’. You don’t say anything. \*You don’t be stupid. (indicative)  
       b. Don’t anyone open the door! (imperative)  
       b’. \*Anyone don’t/ doesn’t open the door. (indicative)

Negative imperatives involve *don’t* and, unlike the indicative counterparts in (32a’), the *don’t* can appear even with the *be* verb preceding the subject *you*. What is particularly interesting is (32b), where the negative polarity item *anyone*, which cannot appear as an indicative subject, can serve as the subject of the 3rd person negative imperative. This indicates either (i) the subject of imperatives is below TP, if *don’t* is at T, or (ii) it may be at Spec of TP, just like any other subject, but *don’t* occurs above TP. In view of the discourse function of imperatives, and in view of where *-na*, the negative imperative marker of Japanese, appears, (ii) would be the more likely option, where the subject is c-commanded by *don’t*, most likely at Fin.

To sum up, imperatives exhibit the following characteristics that require explanation.

- (33) a. The subject of an imperative, ‘you’, may be omitted.  
       b. 3rd person DPs (e.g. *someone*, *everybody*, *John*, *Mary*, etc.) can be the subject of imperatives.<sup>13</sup>

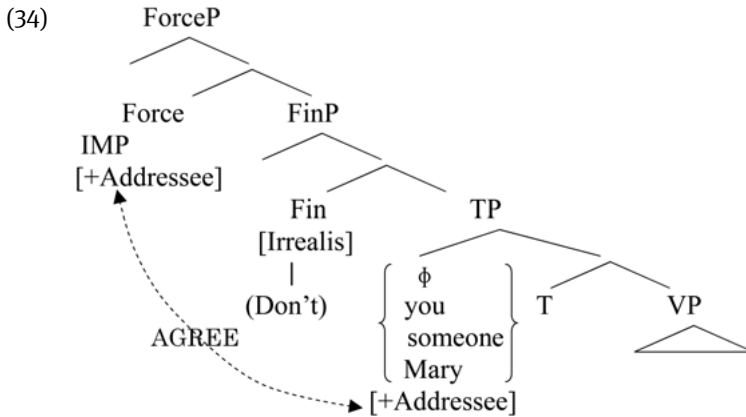
<sup>13</sup> Interestingly, the 3rd person DPs in (31) do not include the 3rd person pronouns, since sentences in (i) are utterly ungrammatical as imperatives, which contrasts with (31).

(i) a. \*They take off {your hats/their hats}!  
       b. \*She come here and he stay there!

If we assume that pronouns (3rd person pronouns, in particular) represent just the  $\phi$  features, ‘person, number, and gender’, what is relevant here is not these features but the features that refer to the speaker and the addressee. This seems to indicate that agreement relevant to the C-system may be different from agreement inside TP. This fact may suggest, as a reviewer pointed out, that the ‘agree-

- c. The 3rd person subject of imperatives does not trigger 3rd person agreement and it behaves more like the 2nd person, serving as an antecedent for *your* and triggering the *you* subject in the tag.
- d. The imperative status is marked at a level higher than the position of the subject, as the position of *don't* indicates.

What is summarized in (33) is basically equivalent to the generalization (24) of Japanese and we can apply the same analysis here. The structure for English imperatives would be (34).



(cf. Hasegawa 2009: 5; 2010c: 49)

## 4.2 Summary

Japanese has been considered to be a non-agreement language. However, previous discussion on agreement has primarily been concerned with phenomena at the TP level, which has been a main concern of generative study. Once we take into consideration what Japanese descriptive studies have investigated, and turn to phenomena involving modality or CP's with particular Force or discourse functions, such as imperatives and volitionals, we see that Japanese exhibits varieties of agreement between the subject and the predicate. By refining the function and structure of CP, theoretical research has enabled incorporation of such facts with the general practice

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ment' at the C-system may be 'qualitatively' different from the one at the T-system which crucially involves  $\phi$  features, if the involvement of  $\phi$  features is a necessary condition for the grammatical process of 'agreement'. However, as mentioned in Note 7, to entertain this issue in this chapter takes us too far afield. See section 6 below. See also Speas and Tenny (2003), Tenny (2006), Miyagawa (2012), and Haegeman and Hill (2014) for relevant discussion.

and mechanisms of syntax. The agreement between the subject and the predicate at the level of CP can be captured basically in the same way as that at TP. What needs special consideration is what feature is involved in agreement. At the TP level, the relevant features seem to be ‘person, number, and gender’, the so-called  $\phi$  features, whereas the agreement features involved at the CP level have to do with the addressee [ $\pm$ Addressee] as in imperatives and the speaker [ $\pm$ Speaker] as in propositions and volitionals.<sup>14</sup> In view of the function of modality, which expresses the speaker’s certainty or judgment regarding the proposition especially in the context of the presence of the addressee, it is reasonable to expect that the relevant features refer to the speaker and the addressee.

The analysis of Japanese imperatives discussed above can naturally be extended to imperatives in other languages. It was shown in 4.2. that English imperatives can in fact be analyzed in an almost identical manner. With the English facts alone, where no obvious morphological agreement between the subject and the predicate is observable, an analysis with agreement at the CP level may not be an obvious option. On the other hand, the facts about 3rd person imperatives in English provide strong evidence that the relevant features are to be [ $\pm$ Addressee] and [ $\pm$ Speaker] and not the  $\phi$  features. Thus, approaching linguistic phenomena from both Japanese and English, different types of languages with different orientation in terms of how sentence function is realized in structure, can give rise to a novel and innovative analysis which may not be immediately obtainable based on the consideration of just one language or one type of language.

In the next section, we will take up another type of concordance phenomenon between a clause type and an adverbial expression, which will also be accounted for in the modality layer (or CP).

## 5 Concordance between an adverbial and a clause type

In Masuoka’s generalization in (17), it is shown that a clause is hierarchically layered and the occurrence of adverbial elements is relevant to the layers. Recent studies assume that adverbs are licensed by the head of a relevant layer (Cinque 1999). With respect to the discourse modality layer, the presence of a particular adverb requires a certain form of a predicate in Japanese. See (35).

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<sup>14</sup> As will be briefly touched upon in section 6, genuine epistemic modality also restricts what person can be the subject (Nitta 1991) and the relevant features would also be [ $\pm$ Addressee][ $\pm$ Speaker]. Based on Nitta’s generalizations, Ueda (2007, 2009) proposes a CP structure that incorporates modality, attempting to provide structural explanations for such agreement phenomena. She notes that the features involved are [ $\pm$ 1st] and [ $\pm$ 2nd], which can be easily translated into our features, [ $\pm$ Speaker] and [ $\pm$ Addressee], respectively.



- (35) a. *Dooka hayaku {kite-kudasai/\*ki-ta/\*ki-ta no}*.  
 please quick come-give.polite=imperative / came / came Q  
 ‘Please come quickly! / \*Please (you) came. / \*Please did (you) come?’
- b. *Ittai Hanako wa {kuru no-ka/\*ki-ta/\*ko-i}*.  
 in.the.hell Hanako TOP come-COMP-Q / came / come=IMP  
 ‘Will Hanako ever come? \*Hanako ever came. Hanako, ever come!’

*Dooka* ‘please’ needs a predicate form that expresses a request and *ittai* ‘in the hell, what on earth’ requires a question. This type of concordance can be analyzed as a kind of agreement between (a sub-head of) the C-head and an adverb.<sup>15</sup> Similar requirements may hold in other languages, as well, but Japanese is special in the sense that the requirement is discernible in the form of the predicate. This concordance can be accounted for in a manner similar to (25), by agreement between a head and a specifier in the C-system. More concretely, the concordance between *ittai* and the question status of a clause can be captured if the adverb *ittai* is licensed at Focus, which is given rise to by the question (Q) specification of Force, which licenses the question particle *ka* (perhaps at the head of Force or Focus) and *no* (perhaps at the Fin head) (Hiraiwa and Ishihara 2002; Kuwabara 2010).

Japanese not only has simple adverbs, seen in (35), but also adverbial clauses that specifically require a certain clause type. Here, we will take up the *to*-temporal clause, the occurrence of which is conditioned by particular main clause types (cf. Kuno 1973; Inoue 1976, 2006; Tsubomoto 1993; etc.).<sup>16</sup> Observe examples below.

<sup>15</sup> In Masuoka’s (17), adverbs of manner, time, place, etc. are also listed which are relevant to the proposition levels. Their occurrence is conditioned by meanings or types of predicates but it does not trigger the occurrence of another item or form. In contrast, adverbs at the speech act level, those shown in (35), require particular clause types that are morphologically so marked at modality. I consider such co-occurrence or concordance syntactically significant and take it a kind of agreement that can be captured by a mechanism the same or similar to that responsible for the subject-modality agreement discussed in section 4.

<sup>16</sup> The *to*-adverbial clause has at least two uses, as Kuno (1973) clearly argues. One refers to two specific events, exemplified in (36), and the other represents a general statement, describing a habitual or logical antecedent-consequence relation, whose examples are given in (i).

- (i) a. *Tokyo wa natu ni na-ru to taihen atu-i*.  
 Tokyo TOP summer become-IMPERF when very hot-IMPERF  
 ‘When summer comes, it becomes very hot in Tokyo’
- b. *2 ni 3 o tas-u to 5 ni na-ru*.  
 to ACC add-IMPERF when become-IMPERF  
 ‘When 2 is added to 3, 5 results.’

They each observe different conditions. In the following, however, we will deal with only the former type (36), expressing two specific events, not the latter type in (i). Furthermore, the speech style under which the following discussion can be maintained is a reportive one, not a narrative style. See Note 17 and section 6 for some discussion on how speech styles affect acceptability.

- (36) a. *Doa o ake-ru to, Hanako ga tat-te-ita.*  
 door ACC open-IMPERF when Hanako NOM stand-was  
 ‘When (I) opened the door, Hanako was there.’
- b. \**Doa o ake-ru to, suwar-{u/ta/oo}.*  
 door ACC open-IMPERF when sit-{IMPERF / PERF / VOL}  
 ‘When (I) open the door, I will sit.’ / ‘When (I) opened the door, (I) sat.’
- c. \**Doa o ake-ru to, suwar-{e/inasai}.*  
 door ACC open-IMPERF when sit-{IMP / POL.IMP}  
 ‘When (you / I) open the door, sit down.’

As can be seen from the above, there is a strong restriction on the clause type of the main clause: it cannot be an imperative, volitional, nor an action that refers to the speaker. Kuno gives (37), among other restrictions, regarding the acceptability of the *to*-temporal clause, ‘the  $S_1$  to  $S_2$  construction’.<sup>17</sup>

- (37) When the  $S_1$  to  $S_2$  construction refers to two specific events:
- (i) The sentence must be amenable to the paraphrase “After / while  $S_1$  happened, what do you think happened? I observed / discovered that  $S_2$  happened.” In other words,  $S_2$  must represent an event that the speaker could observe objectively. Consequently, the construction carries with it the connotation of suspense and surprise.
  - (ii) Therefore,  $S_2$  cannot represent the speaker’s voluntary action.  
 (Cf. Kuno 1973: 194)

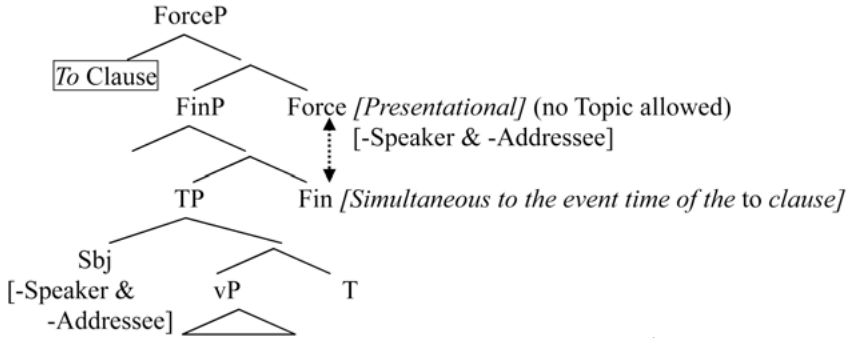
As (37-i) suggests, the *to*-temporal clause functions as a sort of scene setter for the occurrence of the main clause event, which the speaker observes as a surprised or unexpected event. Hasegawa (2011, 2012), noting that the conditions in (37) are basically the same as those for presentational sentence types – *thetic judgments*, in the sense of Kuroda (1972, 1992) – argues that the *to*-clause is licensed at the CP layer of the presentational sentence.<sup>18</sup> The structure presented is (38).<sup>19</sup>

<sup>17</sup> Besides (37-i and ii), Kuno (1973: 194) further states that (ii) “does not apply in narratives, where the narrator can talk about the first person as if the latter were a third party.” What is stated in (37-i) also clearly indicates by the quoted paraphrase that this use of the *to*-clause is observed in reportive utterances, not narratives. In Hasegawa (2011, 2012), taking these features as crucial features of this construction, I argued that this use constitutes the ‘presentational’ function of the clause. See section 6 for some discussion on speech styles and acceptability.

<sup>18</sup> Kuroda states “A *thetic judgment* is based on a perception. The cognitive act of making a *thetic judgment* is confined within the limit of this act of perception.” (Kuroda 1992: 27)”, which is contrasted with the categorical judgment, “the cognitive act of apprehending something as substance and attributing to it a certain property perceived in a situation.” (Ibid.: 23) We will briefly refer to categorical judgment below.

<sup>19</sup> Structure (38) is basically equivalent to the one for *thetic judgment sentences*, which are taken up in Hasegawa (2010a).

(38)



(cf. Hasegawa 2012)

The peculiarities of the *to*-clause become even more apparent when compared with other temporal adverbials, such as a *-toki* ‘when, time’ clause. Compare (39) with a *to*-temporal clause and (40) with an ordinary time adverbial, a *toki*- clause.

- (39) a.  $\{\phi_{Speaker}/*\phi_i/*Watasi-ga\}$  *mado o ake-{ru/\*ta}* *to*  
           I NOM window ACC open-IMPERF/PERF when

*Hanako<sub>i</sub> {ga/\*wa} tat-te i-ta.*

Hanako NOM/TOP stand be-PERF

‘When (I) opened the window, Hanako was standing there.’

- b.  $*Hanako_i \{ga/wa\} \{\phi_{Speaker}/\phi_i\}$  *mado o ake-ru to, tat-te i-ta.*

- (40) a. *John ga ki-ta toki, Mary {ga/wa} ne-te i-ta.*  
       John NOM come-PERF when Mary NOM/TOP sleep be-PERF

‘When John came in, Mary was sleeping.’

- b. *Mary<sub>i</sub> {ga/wa} [ $\phi_i$  Tokyo e  $\{(i)ik-u / (ii)it-ta\}$  *toki*]*  
       Mary NOM/TOP Tokyo to go-IMPERF/go-PERF when

*kaban o kat-ta.*

bag-ACC buy-PERF

‘<sup>(i)</sup> When (Before) Mary went to Tokyo, (she) bought a bag.’

‘<sup>(ii)</sup> When (After) Mary went to Tokyo, (she) bought a bag.’

- c. *Anata wa [ $\phi_i$  Tokyo e it-ta *toki*] kaban o*  
       You TOP Tokyo to go-PERF when bag ACC

*kai-masi-ta ka.*

buy-polite-PERF Q

‘Did you buy a bag, when (after) you went to Tokyo.’

- d. *Watasi wa* [ $\phi_i$  *Tokyo e it-ta toki*] *kaban o*  
 I TOPP Tokyo to go-PERF when bag ACC  
 {*kai-mas-u* / *kat-ta*}.  
 buy-polite-IMPERF / buy-PERF  
 'I {will buy / bought} a bag, when (after) I {go / went} to Tokyo.'

The facts observed in these examples lead to the generalizations in (41).

- (41) a. The matrix subject of the *to*-clause cannot be marked by *wa* 'top', i.e. cannot be topicalized (See (39a)), while that of an ordinary temporal clause (a *toki*-clause) can.
- b. The predicate of the *to*-temporal clause has to be in the imperfective *-ru* form, while that of a *toki*-clause can be either imperfective or perfective. (Compare (39a) with (40a/b))
- c. The *to*-temporal clause, being different from a *toki*-clause, cannot be put after the subject of the main clause. (Compare (39b) with (40b))
- d. The null subject of the *to*-clause cannot refer to the matrix subject, while that of a *toki*-clause can. (Compare (39a/b) with (40b))
- e. When the subject of the *to*-clause is null, it refers to the speaker.<sup>20</sup> (See (39a))
- f. The time reference of the *-ru* imperfect form of the *to*-clause is simultaneous to (or immediately precedes) the occurrence of the matrix clause. This is opposite to the case of the *toki*-temporal clause, in which the *-ru* morpheme refers to the time that follows the main event. (Compare (39a) and (40b))

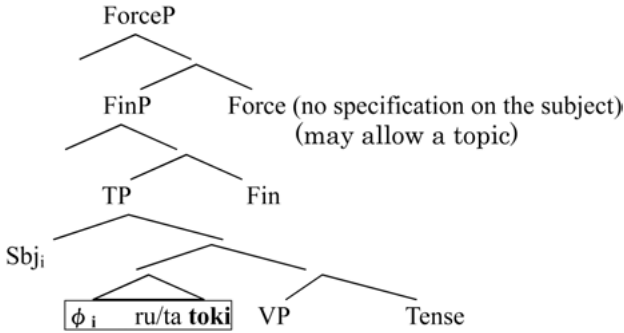
The contrast between the *to*-clause and the *toki*-clause is striking and this difference seems to be due to differences in clause types and how the *to*-temporal clause and the *toki*-temporal adverbial are licensed. The *to*-clause is assumed to have structure (38), while the *toki*-clause, being an ordinary time adverbial, is placed somewhere at or below TP, namely, (42).

<sup>20</sup> The subject of the *to*-clause is null in the unmarked case, referring to the speaker. However, a lexical third person subject is possible as in (i).

*Mary ga ku-{ru/\*ta} to, John ga kaet-ta.*  
 Mary NOM come-IMPERF/PERF when John NOM leave-PERF  
 'When Mary came, John left.'

Note that the predicate in the *to*-clause must be in the imperfective *-ru* form and its event time must precede (or be simultaneous to) the event time of the main clause, observing (41f).

(42) Structure for (40), with an ordinary time adverbial Inside TP or VP



Given (38) and (42), the generalizations in (41) would follow. The restriction on the occurrence of a topic mentioned in (41a) is due to clause types; i.e. how Force is specified. The *to*-clause is licensed by Force of the presentational sentence, which does not allow a topic, while the presence of a topic indicates a categorical judgment, not athetic judgment (See Note 19; Kuroda 1972, 1992).<sup>21</sup> The *toki*-clause is licensed in an ordinary statement that may take a categorical judgment, which may involve a topic.

The difference in the positions of the adverbials account for the other characteristics in (41). As for (41b), the position of the *to*-clause being at Force is not in the realm of the tense or time specification of the main clause tense, either Fin or T, and the interpretation of the imperfective *-ru* is independent of the time referent of the main clause, giving rise to the fact (41f), which will be discussed below. As for (41c), the *to*-clause, being licensed by the presentational Force, occurs higher than and must precede the entire main clause; there is no way for a main clause subject to precede the *to*-clause. This fact also explains (41d) and (41e): The *to*-clause at the Force area is too high for a main clause subject to be an antecedent of the null subject of the *to*-clause. If there is anything that has control over the *to*-clause at Force, it would be the speaker. Recall Rizzi's description of the C-system given in (23a) that

<sup>21</sup> The *to*-temporal clause can take a topic if it is used in narratives. A reviewer presented (i) (modified) and other similar examples, judging them acceptable with *-wa* 'topic' in the main clause. Incidentally he stated that "the connotation of suspense and surprise is somewhat diluted" in these examples.

(i) (My wife looked down in the morning, which worried me. Then,)

{ $\phi_{\text{Speaker}}$ } Kaisya kara kitaku-su-ru to  
company from return=home-IMERF when

tuma<sub>i</sub> {ga/wa} yuka ni taore-te i-ta.

wife NOM/TOP floor on collapse be-PERF

'When (I) came back home, my wife was lying on the floor.'

This example with the topic *tuma-wa* 'wife-topic' is acceptable because this is an example in a narrative where *tuma* 'wife' has been set as a topic in the description that precedes this utterance. Thus, (i) is not a counter example to (41a) but complies with it under (37).

the function of the main clause is specified at Force in the C-system, which works as a mediator between the proposition (TP) and the superordinate structure (the discourse for main clauses). In the case of a *toki*-clause, on the other hand, being placed inside TP, its null subject is c-commanded by the main clause subject, which serves as its antecedent.<sup>22</sup>

The interpretation of the tense or the event time of the adverbial clauses (41f) would also be relevant to where they appear in relation to the head that specifies the event time of the main clause. In this system, Fin, directed by Force, specifies the rudimentary tense, which is morphologically realized in a specific way at T. It is well-known that the Japanese tense morpheme is in principle interpreted relative to the superordinate structure (cf. Iori 2001). In a main clause, tense is interpreted in terms of the speaking time; the imperfective *-ru* refers to the present tense and the perfective *-ta* refers to the past tense. In a subordinate clause, on the other hand, its event time is interpreted relative to the main clause event time. If it has the imperfective *-ru*, it is interpreted as imperfect with respect to the event time of the main clause. With the perfective *-ta*, it is perfect or completed at the time of the occurrence of the main clause event. The *tara*-clause complies with this generalization, as clearly shown in (40b). The *to*-clause, however, does not observe this generalization, as we have seen in (41f). The *to*-clause has to always be in the imperfective *-ru* form, as stated in (41b), but it behaves in a way almost opposite to what the general rule of the event time interpretation of the subordinate clause imposes. Even with the imperfective *-ru*, the event expressed in the *to*-clause has to precede (or be simultaneous with) the main clause event. This otherwise peculiar fact can be explained by the structural position of the *to*-clause shown in (38), which is far above ordinary subordinate clauses. The *to*-clause, being at the specifier of Force, is free from the 'binding' of the tense of a main clause. Hence, the *-ru* form in the *to*-clause cannot be an ordinary imperfect marker of tense, since it is free from the tense interpretation of the main clause. It simply functions as a default form of a predicate and does not mark the tense of the event of the *to*-clause. The *to*-clause simply presents a scene when the main clause event is observed with some surprise, as in Kuno's description of S<sub>1</sub> of this construction in (37-i).

Discourse functions are often clearly discernible in morphological forms in the right periphery region in Japanese, which has been noted and described in traditional Japanese studies, as well as within the generative tradition. However, there

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<sup>22</sup> Adverbial clauses inside TP, such as the *toki*-clause, can be scrambled to the sentence initial position which the subject may not c-command. It is beyond the scope of this paper to discuss how pronouns (and zero-pronouns) are interpreted in scrambled sentences in general. I assume, however, that the (zero-)pronoun in a scrambled adverbial can refer to the subject of the main clause, as long as the adverbial is within the c-command domain of the subject at base. The *to*-clause is different from the *tara*-clause in that the sentence initial position (Spec of Force) is its base position (see (38)) and it would not be inside the c-command domain of the subject at any stage of derivation. This fact is responsible for (41d).

has not been enough close attention placed on the relation between a particular discourse function and a certain item whose occurrence is contingent upon that discourse function. Such co-occurrence indicates that there be some syntactic operation at work. The phenomena observed with respect to the *to*-temporal clause would constitute a case study for such research.

## 6 Summary

The range of phenomena that have to do with ‘modality’ is vast and the definition of modality relies on semantic and pragmatic characterizations. In this chapter, we have taken up the phenomena mainly in terms of how modality is related to syntax by looking at two general issues: (i) how Japanese typical modality expressions can be represented in syntactic structure, and (ii) how agreement or concordance relations are syntactically captured between modality and another item in a sentence. For (i), it is shown that the hierarchical clause structure found in Japanese descriptive studies provides strong arguments for recent proposals regarding the C-system. As for (ii), we have taken up the agreement relation between the subject and a discourse modality expression and that between the occurrence of a *to*-clause and clause types. There, it was shown that clause types marked at Force are agreement enforcers or licensors for a subject of a particular type and the *to*-clause.

It is only recently that phenomena involving the CP area or modality have been examined extensively in a systematic and theoretically significant way in generative syntax. The phenomena we have discussed have shed new light on modality and CP phenomena not only for analyses of Japanese facts, but for other languages, thus giving a universal perspective. There are other interesting facts that have been noted in descriptive studies which have not yet been theoretically accounted for. Once they are investigated, they may lead research in a direction different from what studies in English and other widely investigated languages have suggested.

In fact, such research is already under way: the phenomenon of sentence final particles (e.g. Endo 2007, 2010; Saito 2012), for example, shows that a particular order of sentence particles in Japanese provides evidence for a particular order and function of sub-heads of the C-system, e.g. *(kuru)-yo-ne* ‘(come)-assertion-confirm’ vs. *\*(kuru)-ne-yo* ‘(come)-confirm-assertion’; *(kuru)-ka-to (kiku)* ‘(come)-Q-that-(ask)’ vs. *\*(kuru)-to-ka (kiku)* ‘(come)-that Q-(ask)’, etc. The concordance between an adverbial or a focus phrase (e.g. the *-made* phrase ‘exemplification’) and a type of modality has been pointed out by Noda (1995) and theoretically dealt with in Sano (2007) (see also Uchibori 2007).

As for the person restriction on the subject, we have discussed the agreement between the subject and a discourse modality expression. The person restriction on the subject is noted also with respect to epistemic modality expressions, such as –

*mai* ‘would not’, which takes [–Addressee] subject, and *–daroo* ‘guess’, which requires a 3rd person (i.e. [–Addressee, –Speaker]) subject, as briefly noted in 2.2 (see Nitta 1991 for an extensive description of this fact and Ueda 2007, 2009 for a theoretical analysis). Furthermore, it has been well-known that certain predicates, e.g. those that express personal feelings or sentience, such as, *hosii* ‘want’ and *samui* ‘cold’, take only the speaker as subject in reportive style speech (see Kuroda 1965, 1973; Speas and Tenny 2003; Tenny 2006; in particular). Obviously these phenomena are not completely independent from each other. First of all, they all involve the person features relevant to [±Addressee, ±Speaker], rather than the  $\phi$  features [person, number, gender]. Second, they are sensitive to speech styles. The person restriction holds in a reportive style but not in a narrative, where the speaker or narrator can disguise any person.<sup>23</sup> Furthermore, as mentioned in section 4 (see also Notes 16 and 17), the conditions on the *to*-clause in (37) and the generalizations on its subject, (41c) and (41e), can be lifted in narratives, where the narrator can talk about the speaker (narrator)’s voluntary action as if it were an observable event caused by the third party.

It is beyond the scope of this paper to properly examine differences in speech styles and how they affect the restrictions on person features. We simply point out that there have been several attempts that entertain the possibility of incorporating the addressee and the speaker, as well as register (or speech style) differences, into syntactic structure, somewhere at around the CP area (cf. Tenny 2006; Haegeman 1990, 2008; Miyagawa 2012; Haegeman and Hill 2014). With intensive integration of both descriptive and theoretical work, we will see in future research how fruitful these attempts will be.

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<sup>23</sup> The agreement involving discourse modality expressions, taken up in section 4, is not affected by speech styles. By definition, discourse modality has a specific function in a discourse, which would not be altered by speech styles.



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# 11 The passive voice

## 1 Introduction

The passive voice system in Japanese is extremely rich and has been studied extensively for the last 60 years (Hoshi 1991, 1994; Inoue 1976; Kubo 1992; Kuno 1973; Kuroda 1965; N. McCawley 1972; Miyagawa 1989; Shibatani 1972, among many others). Many important properties, which have significantly advanced the empirical and theoretical understanding of Japanese, have been found, but many issues remain controversial; for example, there is no consensus in terms of the precise number of passive types, let alone their syntactic structures (see Shibatani 1990 and Hoshi 1999 for an overview of the literature). The widely-adopted view is that at least two homophonous passive *-(r)are* morphemes need to be posited to account for different clusters of properties associated with Japanese passives – one inducing NP-movement and the other taking an NP as its subject (Kuno 1973; Shibatani 1978; Miyagawa 1989; Kubo 1992, among others). Unifying the two types while assuming a single and invariant set of semantic and syntactic properties of *-(r)are* is clearly a theoretically desirable hypothesis, from both language-internal and universal perspectives, yet it has never been successful.

This chapter revisits various properties and analyses of Japanese passives from a perspective of generative syntax, the Minimalist Program framework (e.g. Chomsky 1993, 1995). In particular, rather than considering passives a unique construction, I assume modularity of grammar, which takes various properties of passives as to result from interaction between the properties of the lexical and grammatical morphemes contained in a sentence and independently-motivated principles of the language (see Chomsky 1981; Jaeggli 1986, among others). Such a modular approach allows us to identify the source of distributional differences observed between different passive types, thus making some inroads into the unification of passives as a single phenomenon. In order to illustrate insights such a modular approach can provide, this chapter introduces a recent trial pursued by Ishizuka (2010a, 2012) at unifying passives as an NP-movement (or raising) phenomenon, in addition to the major traditional research. Ishizuka's idea differs from the previous analyses in that it is not the passive morpheme *-(r)are* but the main verb combined with *-(r)are* that always licenses the noun appearing in the grammatical subject position, sometimes as the oblique of the main verb or the possessor of an internal argument (e.g. the direct object).

This chapter is organized as follows: Section 2 introduces the traditional classification and analyses. Section 3 reviews and reevaluates some of the important findings in the literature. Section 4 introduces Ishizuka's (2010a, 2012) unified raising analysis.

Section 5 provides two pieces of evidence for a movement approach to Japanese passives. Lastly, further directions and conclusions are provided in section 6.

## 2 Traditional classification and analyses

Japanese passive sentences contain a synthetic passive morpheme *-(r)are*, which attaches to transitive, ditransitive, and some intransitive verbs.<sup>1</sup> The following two types of passives have long been acknowledged in the literature (see Kuno 1973; Shibatani 1990; Hoshi 1999, among others): “direct passives”, which have a corresponding active sentence like English passives, with the logical object appearing as the grammatical subject, as shown in an active-passive pair (1a) and (1b), and “indirect passives”, which come in two varieties – (a) “possessive passives”, whose grammatical subject stands in a canonical possessive relation (i.e. kinship as in (2), ownership, inalienable possession) with the direct object and (b) “gapless passives”, which appear to lack an active counterpart and to contain an extra argument (realized as the grammatical subject) that is unlicensed by the main verb, as exemplified in (3). In both direct and indirect passives, the logical subject of the main verb is introduced, sometimes optionally, by the dative *by*-phrase, thus these passives are also called *ni*-passives.<sup>2</sup>

### (1) Direct passive

a. *Naomi ga Ken o nagut-ta.*

Naomi NOM Ken ACC hit-PST

‘Naomi hit Ken.’ (Active)

b. *Ken ga Naomi ni nagur-are-ta.*

Ken NOM Naomi DAT hit-PASS-PST

‘Ken was hit by Naomi.’ (Passive)

### (2) Indirect (Possessive) passive

*Ken ga sensei ni musuko o sikar-are-ta.*

Ken NOM teacher DAT son ACC scold-PASS-PST

lit. ‘Ken was scolded his son by the teacher.’ (cf. Ken’s son was scolded.)<sup>3</sup>

<sup>1</sup> The passive morpheme appears as *-rare* after a verb ending with a vowel, and as *are* after a verb ending with a consonant.

<sup>2</sup> The logical subject of the main verb is sometimes introduced by *kara* ‘from’. The use of *kara* is restricted to verbs whose logical subject is the “source” of the transition of emotion/perception, entities, or verbal information. In this chapter, I will focus on passives involving *ni*-phrases and *ni-yotte* phrases, and will put *kara*-phrases aside (see Ishizuka 2012 for more information about passives with *kara*-phrases).

<sup>3</sup> Most of the English translations of Japanese indirect passives tend to be awkward or ungrammatical. However, such translations are used because they seem to me to be the best approximations.

## (3) Indirect (Gapless) passive

- a. *Ken ga Naomi ni nige-rare-ta.*  
 Ken NOM Naomi DAT escape-PASS-PST  
 lit. 'Ken was escaped from by Naomi.' (cf. Naomi escaped [from Ken].)
- b. *Naomi ga hahaoya ni sin-are-ta.*  
 Naomi NOM mother DAT die-PASS-PST  
 lit. 'Naomi was died by (her) mother.' (cf. Naomi's mother died.)
- c. {*Ken / Kantoo tihoo*} *ga ame ni hur-are-ta.*  
 {Ken / Kanto region} NOM rain DAT descend-PASS-PST  
 ' {Ken / Kanto region} was rained on.'
- d. *Ken ga Naomi ni nak-are-ta.*  
 Ken NOM Naomi DAT cry-PASS-PST  
 lit. 'Ken was cried over by Naomi.' (cf. Naomi cried [over Ken].)

Linguists like Terada (1990), Kubo (1992), and Kinsui (1997) assume that possessive passives constitute a natural class, having characteristics of both direct and indirect passives – namely, having a possessor gap corresponding to the grammatical subject and having an overt direct object. On the other hand, linguists like Kuroda (1979) and Kitagawa and Kuroda (1992) do not acknowledge the presence of a possessor gap and assume that (2)-type passives are gapless just like the passives in (3).

Another type of passives often discussed in the literature is called *ni-yotte* passives, which contrasts with the above-mentioned *ni* passives – direct and indirect passives containing a dative *ni*-phrase (Inoue 1976; Kuroda 1979, among others). *Ni-yotte* passives look basically the same as direct passives except that the logical subject is realized not as a *ni*-phrase but as a *ni-yotte* phrase, as exemplified in (4).

(4) *Ni-yotte* passive

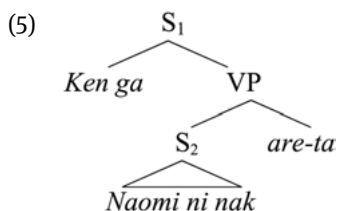
- Kabin ga (Ken ni-yotte) kowas-are-ta.*  
 vase NOM Ken DAT-owing break-PASS-PST  
 'The vase was broken (by means of Ken).'

According to Kinsui (1997), direct and indirect passives containing *ni*-phrases have existed from early times and are indigenous to the Japanese language, while passives with *ni-yotte* phrases are non-indigenous and came into Japanese as a means of translating modern Dutch texts.

## 2.1 Uniform and non-uniform theories

Since the 1960s, there have been two competing analyses of the dichotomy between direct and indirect passives: the “uniform theory”, which derives both passives from

a common complementation substructure with optional “control” (K. Hasegawa 1964; Kuroda 1965, 1979, 1985; Makino 1972, 1973; Howard and Niyekawa-Howard 1976; Kuno 1983, 1986; Kitagawa 1986; N. Hasegawa 1988; Kitagawa and Kuroda 1992; Matsuoka 2002, among others), and the “non-uniform theory”, which posits distinct structures for direct and indirect passives (N. McCawley 1972; Kuno 1973; S.-I. Harada 1973; Perlmutter 1973; K. Inoue 1976; Shibatani 1978; Terada 1990; Kubo 1992, among others). Both theories agree on the structure of indirect passives: the passive  $-(r)are$  is a two-place predicate selecting an experiencer-like “affectee” argument as its subject and a clausal complement expressing “eventuality” (Kuno 1973, 1986; Kuroda 1979, 1985; Kubo 1992, among many others). This is because indirect passives not only lack an active counterpart but often carry strong “adversative or affected connotations”, where the referent of the grammatical subject is adversely affected by the event denoted in the rest of the sentence (cf. Wierzbicka 1979; Oehrle and Nishio 1981). The structure for (3d) is given in (5) (see Hoshi 1999: 192).

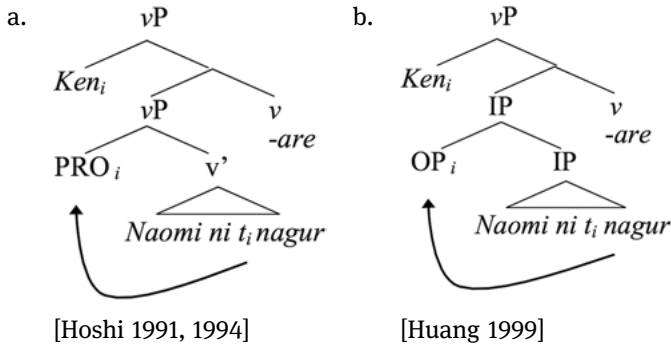


The structure of indirect passives (or gapless passives, to those who acknowledge two types of indirect passives) raises a problem for that of direct passives (and possessive passives), which contain the same  $-(r)are$  morpheme yet show different clusters of properties. The “uniform theory” assumes that the  $-(r)are$  morpheme in direct passives is the same as the one contained in indirect passives in selecting an affectee argument and a clausal complement. The object gap in the complement clause is considered *pro* coindexed with the matrix subject (e.g. Kuroda 1965, 1979; Kitagawa and Kuroda 1992; Hoshi 1994, 1999; Matsuoka 2002; Goro 2006). In contrast, under the “non-uniform theory”, direct passives are derived from the transitive underlying structure just like English passives. The direct passive morpheme  $-(r)are$  triggers the movement of the logical object to the subject position by absorbing the external  $\theta$ -role and structural Case discharged by the main verb (Kuno 1973; Miyagawa 1989; Kubo 1992, among others).

More recently, variants of the uniform theory, which I call “hybrid theories”, have been proposed by Hoshi (1991, 1994) and Huang (1999). In their proposals, the structure involves both a control relation and tough-movement-like movement (i.e. with the missing object moving to the edge of the embedded clause), having  $-(r)are$  select a subject in common. Their structures are given in (6a) and (6b).



## (6) Hybrid theories



- c. *Ken ga Naomi ni nagur-are-ta.*  
 Ken NOM Naomi DAT hit-PASS-PST  
 'Ken was hit by Naomi.'

Regarding “possessive passives”, they can be derived by any of the approaches discussed above: (i) by moving a possessor out of the direct object to the subject position (Terada 1990; Kubo 1992); (ii) by having *-(r)are* select an affectee argument as its subject and a gapless clausal complement (Kuroda 1979; Kitagawa and Kuroda 1992, among others); or (iii) by moving PRO to the edge of the embedded clause and letting it be bound by the subject selected by *-(r)are* (Hoshi 1994).<sup>4</sup> The problem with treating possessive passives as a subset of indirect passives as in the “uniform theory” is that they appear to behave as a natural class from a typological perspective: Korean and Chinese are known to have possessive and direct passives but lack (3)-type indirect passives (e.g. Washio 1993). This typological fact supports the idea that the distinction should be drawn not between direct and indirect passives but within indirect passives – possessives vs. gapless passives (see also Shibatani 1990). However, if the “non-uniform theory” were correct, it would be an unsustainable coincidence that the two morphemes are both spelled out as *-(r)are*. Needless to say, the “uniform theory” is preferable to the “non-uniform theory” from both a theoretical and acquisitional point of view, assuming only one passive *-(r)are* morpheme in Japanese. How can we resolve this dilemma? Before answering this question, let us briefly review the third type of passives.

## 2.2 *Ni-yotte* passives

Among the linguists who regard the *ni-yotte* passive as a natural class, there is a consensus that the *ni-yotte* passive is derived from its underlying active counterpart

<sup>4</sup> In order to capture the cross-linguistic differences, Huang (1999), unlike Hoshi (1994), attributes the availability of possessive passives to the availability of the outer object construction (see Huang 1999 for more information).

via NP movement, just like English passives (e.g. Kuroda 1979; Kitagawa and Kuroda 1992; Hoshi 1994, 1999; Matsuoka 2002). According to Hoshi (1994), in *ni-yotte* passives the logical subject of the main verb is suppressed by *-(r)are*, appearing as an adverbial *ni-yotte* phrase. Furthermore, based on Teramura's (1982) and Park and Whitman's (2003) observations such that the *ni-yotte* phrase is infelicitous with psychological predicates like *aisuru* 'love', linguists like Goro (2006) and Fukuda (2009) conclude that *ni-yotte* is different from *ni* in assigning a cause  $\theta$ -role. Since *ni-yotte* contains a gerundive form of the verb *yor-u* 'owe' – *yotte* 'owing', their proposal is a cogent hypothesis. Significantly, the *ni-yotte* phrase is not specific to passives but is used more generally to introduce a cause, as illustrated (cf. Ishizuka 2012:129) below:

- (7) *Zyuutai wa ziko ni-yotte oki-ta.*  
 traffic.jam TOP accident DAT-owing occur-PST  
 'The traffic jam occurred due to an accident.'

Furthermore, Ishizuka (2012) points out that a *ni* phrase and a *ni-yotte* phrase can co-occur in a single passive.

- (8) a. *Doroboo ga (keikan ni) konboo ni-yotte ude o or-are-ta.*  
 thief NOM policeman DAT stick DAT-owing arm ACC break-PASS-PST  
 'A thief's arm was broken (by a policeman) by means of a stick.'
- b. *Hikooki ga (terorisuto ni) bakudan ni-yotte hakais-are-ta.*  
 airplane NOM terrorist DAT bomb DAT-owing destroy-PASS-PST  
 'The airplane was destroyed (by a terrorist) using a bomb.'

Examples like (8a) and (8b) are unexpected, if *-(r)are* contained in the *ni*-passive and *-(r)are* in the *ni-yotte* passive are fundamentally different. Hence, following the insights in the literature (e.g. Goro 2006, Fukuda 2009), we can probably conclude that *ni-yotte* passives are basically short passives – direct passives with a suppressed logical subject – containing a *ni-yotte* phrase introducing the cause. If short passives and *ni-yotte* phrases were already independently available in Japanese, combining them to translate Dutch texts, for which direct translations were unavailable, seems to have been a practical solution. In section 5.2, I will review cases where replacing a *ni*-phrase with a *ni-yotte* phrase indeed improves the acceptability of the passive.

Let us now return to the dilemma between cross-linguistic consistency and language internal unification discussed in the previous section. There is another reason we do not want to disregard crosslinguistic consistency, that is the polysemous nature of *-(r)are*. In quite a few languages (e.g. Hindi, Turkish, Russian, Spanish), the synthetic passive morpheme is known to give rise to a number of different readings, such as reflexives, reciprocals, middles, and potentials (see Shibatani 1985: 828;

Kazenin 2001: 902). This is also the case with *-(r)are*: it has several usages besides passives (i.e. spontaneous, potentials, and subject honorifics), which are known to have arisen from a common source (Shibatani 1985; Oshima 2006: 150). The cross-linguistic polysemy strongly supports the idea that *-(r)are* is a typical passive morpheme that never introduces an external argument. As a solution to this dilemma, Ishizuka (2010a, 2012) has proposed a “unified raising analysis”. However, a question arises: given all the previous findings in support of the traditional analyses, how can a unified raising analysis be achieved? Evidently, the critical step is to identify a gap corresponding to the grammatical subject in indirect, especially gapless, passives. I will first revisit some major findings in the literature in section 3, and then lay out Ishizuka’s (2010a, 2012) proposal in section 4.

### 3 Revisiting the previous findings

It is impossible in the current context to give a comprehensive survey of the existing literature. Therefore, I will focus on the properties of passives that are critical to the questions of whether or not indirect passives constitute a natural class and of whether or not the derivation of passives involves movement.

#### 3.1 Evidence for and against the defining properties of indirect passives

All the literature on Japanese passives commonly assumes that indirect passives constitute a natural class. This assumption has been supported by properties like lack of active counterparts, incompatibility with an inanimate subject, necessity of contextual support, and the presence of adversative or affected connotations (Kitagawa and Kuroda 1992; Kubo 1992; Kuroda 1979, among others). The four defining properties of indirect passives will be reviewed in turn.

##### 3.1.1 Availability of active counterparts

The indirect passives in (3) contain an intransitive verb, thus in theory lack an active counterpart. However, as is well-known, many languages allow passives derived from intransitive verbs. For example, languages like Dutch, German, and Latin allow “impersonal passives” (N. Hasegawa 1988; Shibatani 1990; Keenan and Dryer 2007).

- (9) *Er wordt (door de jongens) gefloten.*  
       there became (by the young.men) whistled  
       lit. ‘There was whistled (by the boys).’ [Dutch] (Keenan and Dryer 2007: 17)

In contrast, languages like English allow “pseudo-passives” (or prepositional passives), as exemplified in (10). In pseudo-passives, not an overt or covert *there* expletive but the object of a prepositional phrase occupies the subject position, stranding the preposition (Chomsky 1975; Davison 1980; Hornstein and Weinberg 1981; Bresnan 1982; Postal 1986, 2004; van Riemsdijk and Williams 1986; Baltin and Postal 1996, among others):

- (10) a. *The clown was laughed at by the children.*  
 b. *The bed has been slept in (by the children).*  
 c. *The problem was referred to by Myron.*  
 d. *Harry was cared for.*  
 e. *Pauline’s thesis was talked about by the committee.*

Without an overt or covert *there* expletive, impersonal passives like (9) are not available to Japanese. Then how about pseudo-passives? This is not always transparent since Japanese allows neither double-Case marking (e.g. \**hon-ni-ga*, ‘book-DAT-NOM’) nor Case stranding in any movement configuration, not only in passives but also in relative constructions (see Kameshima 1989: 13; Ishizuka 2009, 2012: 55). The relativized head marks only the Case in the matrix clause, as shown in (11).

- (11) [*Naomi ga naihu-de niku o kit-ta naihu*] *ga togat.tei-ta.*  
 Naomi NOM meat ACC cut-PST knife NOM sharp.be-PST  
 ‘The knife which Naomi cut meat with was sharp.’  
 [*de*-marked instrumental]

Concerning passives, it has been widely assumed that Japanese allows the goal to be the grammatical subject despite the disappearance of the original dative marking, as shown in (12) (e.g. Inoue 1976; Shibatani 1978; Kubo 1992).

- (12) [*Taroo ni*]<sub>i</sub> *ga Ziroo ni t<sub>i</sub> Hanako o syookais-are-ta.*  
 Taro DAT NOM Jiro DAT Hanako ACC introduce-PASS-PST  
 lit. ‘Taro was introduced Hanako to by Jiro.’

From a universal perspective, it is utterly conceivable that a language allows a non-direct object to be the grammatical subject in the passive.

Extending such a pseudo-passive analysis to the indirect passives in (3), Ishizuka (2010a, 2012) analyzes them as passives with an underlying oblique or genitive NP occupying the subject position. Specifically, she proposes that the grammatical subjects in the passives in (3) are originally licensed as “source”, “genitive”, “on/at-directional”, and “cause” arguments of the main verb respectively. The proposed active counterparts are provided below:

- (13) a. *Naomi ga Ken kara nige-ta.*  
 Naomi NOM Ken ABL escape-PST  
 ‘Naomi escaped from Ken.’ (Source)
- b. *Naomi no hahaoya ga sin-da.*  
 Naomi GEN mother NOM die-PST  
 ‘Naomi’s mother died.’ (Genitive)
- c. *Ame ga {Kantoo tihoo / \*?Ken} ni hut-ta.*  
 rain NOM {Kanto region / Ken} DAT descend-PST  
 ‘Rain descended on Kanto region.’ (*on*-Directional)
- d. *Naomi ga Ken \*(no uragiri) ni nai-ta.*  
 Naomi NOM Ken GEN betrayal DAT cry-PST  
 ‘Naomi cried over Ken(’s betrayal).’ (Cause)

Although not standardly assumed, Ishizuka’s proposal that (3a) involves moving the “source” (*kara*-phrase) to the subject position is unsurprising if we take the behavior of the goal into consideration (see (12)). The source is basically the counterpart of the goal, minimally differing in directionality. Now consider (14a) and (14b), without presupposing any supportive context.

- (14) a. *Ken ga Naomi ni nige-rare-ta.*  
 Ken NOM Naomi DAT escape-PASS-PST  
 lit. ‘Ken was escaped from by Naomi.’
- b. *?\*Ken ga Naomi ni Taroo kara nige-rare-ta.*  
 Ken NOM Naomi DAT Taro ABL escape-PASS-PST  
 int. ‘Ken was affected by Naomi’s escaping from Taro.’

(14a) is felicitous, while (14b) is not, at least without supportive context inducing possessive relation between *Ken* and *Naomi*.<sup>5</sup> This is unexpected since (13a) shows that the verb ‘*nige-ru*’ is compatible with a source phrase. However, this is exactly what we expect if *Ken* in (14a) is originally licensed as the source of ‘*nige-ru*’. If we can all agree that (13a) is an active counterpart of (14a), this will be a strong motivation for analyzing other instances of indirect passives as having an active counterpart. This is because having the same *-(r)are* in all indirect (or gapless, at least) passives is theoretically preferable.

<sup>5</sup> If *Ken* and *Naomi* stand in a kinship (or some kind of a genitive) relation, a clause internal active source of *Ken* (i.e. [Ken-no Naomi]) becomes available and (14b) will be acceptable. However, this reading is irrelevant to the discussion here (see section 4.3.1 for more information).

Recall that linguists who consider possessive passives like (2) a natural class assume that the possessor of the direct object (i.e. theme) is entitled to move to the subject position via an operation known as possessor-raising (Shibatani 1990, Kubo 1992, among many others). Then Ishizuka's proposal that (3b) contains a possessor gap in the *ni*-phrase is simply an extension of their proposal. In (3b), *Naomi* is originally licensed as a genitive phrase of the internal argument *hahaoya* 'mother' – the 'theme' of the verb *sin-u* – and moves to the subject position in the passive. In fact, a kinship (or some kind of a genitive) relation between the subject and the dative NP is obligatory for this type of passive to be grammatical. Manipulating the relation between the two NPs can illuminate this requirement. Consider (15a) and (15b), which are chosen to eliminate the potential internal source of the grammatical subject.

- (15) a. \**Naomi ga Shibuya de misiranuhito ni sin-are-ta.*  
           Naomi NOM Shibuya LOC stranger DAT die-PASS-PST  
           int. 'Naomi had a stranger die at Shibuya.'
- b. \**Ken ga Naomi no kaisya ni toosans-are-ta.*  
           Ken NOM Naomi GEN company DAT bankrupt-PASS-PST  
           int. 'Ken had Naomi's company go bankrupt.'

Intriguingly, (15a) is not acceptable even if *Naomi* felt sick from witnessing the event, and could not go to work. Changing the locative phrase *Shibuya de* to [*Naomi-no meno mae*] *de* 'in front of Naomi' makes (15a) acceptable because the possessor source of *Naomi* is now available.<sup>6</sup> Significantly, this in fact shows that the grammatical subject in the passive needs a linguistically represented internal source. Similarly, (15b) is not acceptable unless context inducing some kind of a genitive relation between the subject and the dative phrase (e.g. *Ken* is the owner of *Naomi's* company) is assumed (thus, creating an internal source for *Ken* – [*Ken's [Naomi's company]*]). The contrast between (3b) and (15a) shows that the grammaticality of (3b) is contingent on the possessive relation and strongly supports the idea that the grammatical subject in the passive requires an internal source.

Since the genitive particle *no* encodes a wide variety of relations especially in supportive context, subsuming the indirect passive of (3b)-type under possessive passives might wrongly give an impression that everything is now analyzed as possessive passives. However, this is not true. It is well known that in Romance languages and Hebrew, possessor-raising is only possible from internal arguments (e.g. direct objects) and impossible from external arguments (i.e. subject of transitive

<sup>6</sup> According to Landau (1999: 17), "possessor raising is sensitive to islands. Thus locative, source and instrumental PPs do not in general block possessor raising from the prepositional object, but typical adjunct PPs (expressing cause, purpose, opposition, etc.) do so."

or unergative verbs) (see Landau 1999). The same restriction is at work in Japanese, as evidenced by (16) (cf. Pytkäinen 2000, Ishizuka 2009, 2011):

- (16) \*?*Ken ga ootoo ni misiranuhito o koros-are-ta.*  
 Ken NOM brother DAT stranger ACC kill-PASS-PST  
 Int. 'Ken was affected by his brother killing a stranger.'

Possessive passives will be discussed in more detail in section 4.3.1.

Now let us move on to (3c), a well-cited 'rain' example. A typical state-of-affairs depicted in (3c) is that *Ken* gets wet because of rain. Basing on this observation, Ishizuka (2010a, 2012) proposes that the subject *Ken* is licensed as the *on*-Directional NP of *hur-u* 'descend', as suggested in (13c). However, there are some complications: when the *on*-Directional NP refers to a single person, the active counterpart sounds a bit awkward. Presumably, this is due to pragmatic reasons. Generally, 'rain' falls on larger areas than one person, thus real world plausibility is likely to reject sentences like 'Rain falls on one person.'<sup>7</sup>

One of the reviewers has noted that *Ken* need not be the *on*-Directional because (3c) is compatible with the situation that *Ken* had to cancel the outdoor event he is in charge of due to rain. Incidentally, the same example is discussed in Ishizuka (2012: 227) and the speakers she asked did not accept (3c) in such a context. It might be possible for some speakers to interpret *Ken* to mean *Ken's event* in well-established context, but the difference between the two readings – *Ken* and *Ken's event* – can be elucidated by comparing the following two passives:

- (17) a. *Ken no ibento ga ame ni hur-are te,*  
 Ken GEN event NOM rain DAT descend-PASS and  
*tyuusi ni nat-ta.*  
 cancellation DAT become-PST  
 'Ken's event was rained on and got cancelled.'
- b. ?*Ken ga ame ni hur-are te, ibento ga*  
 Ken NOM rain DAT descend-PASS and event NOM  
*tyuusi ni nat-ta.*  
 cancellation DAT become-PST  
 'Ken was rained on and his event got cancelled.'

<sup>7</sup> The pragmatic account is also supported by the fact that if the *on*-Directional NP refers to more than one person, the sentence sounds much better. In fact, the passive – *Megumi-no ame-ga watasitati-ni hut-ta* 'A beneficial rain descended upon us' – was acceptable to many speakers Ishizuka (2012: 86) asked. The results from a 5-point scale (5 = completely natural, 1 = impossible) grammaticality judgment survey show that 52 out of 74 speakers rated this sentence as 4 or 5, 14 speakers as 3, and 8 speakers as 1 or 2. The mean rating is 4.03 with the standard deviation 1.11.

Only (17a) depicts the state of affairs such that it started raining during the outdoor event and it was cancelled. In contrast, (17b) makes sense only if Ken's appearance was critical to the event, and his appearance was no longer available because he was rained on. Eliminating *ibento-ga* 'the event' might increase the acceptability of (17b) in the context described in (17a), but then that indeed shows that *Ken* can be loosely used in place of *Ken-no ibento* 'Ken's event' in context.

Finally, let us turn to (3d). One plausible situation (3d) depicts is that *Ken* says something unfavorable or unexpected to *Naomi* and she cries (or *Ken* is responsible for *Naomi*, but she cries). Such an observation has led Ishizuka (2012: 89) to propose that the subject *Ken* in (3d) is originally licensed as the dative-marked "cause" of *nak-u* 'cry'. Another passive of this type, which contains the psych-verb *odorok-u* 'be surprised', is presented below with its active counterpart:

- (18) a. {*Naomi* / ?\**sono nyuusu*} *ga Ken ni odorok-are-ta*.  
           *Naomi* / that news NOM *Ken* DAT be.surprised-PASS-PST  
           '[{*Naomi* / ?\*That news}] was being surprised at by *Ken*.' [Passive]
- b. *Ken ga {Naomi/sono nyuusu} ni odoroi-ta*.  
       *Ken* NOM {*Naomi*/that news} DAT surprise-PST  
       'Ken was surprised at [{*Naomi*/that news}].' [Active]

Animacy effects are again observed. The verb *nak-u* 'cry' is only compatible with an inanimate "cause" (*ni*-phrase) in the active and with an animate "cause" (*ga*-phrase) in the passive (cf. (13d)). Similarly, the passive containing *odorok-u* 'be surprised' sounds awkward with an inanimate subject, as shown in (18a). This is quite puzzling. Nevertheless, despite the animacy mismatch, Ishizuka (2010a, 2012) proposes that the grammatical subject *Ken* in (3d) should be taken as an underlying dative Cause selected by the main verb *nak-u* 'to cry.' The following pair supports her proposal:

- (19) a. *Naomi ga sono eiga ni nai-ta*.  
           *Naomi* NOM that movie DAT cry-PST  
           'Naomi cried over that movie.'
- b. *Sono eiga ga (Naomi ni {wa}) nak-e-ta*.  
       that movie NOM *Naomi* DAT TOP cry-POTEN-PST  
       lit. 'That movie is cry-able (to *Naomi*).'  
       'That movie is able to make [{*Naomi*/people}] cry.'

The verb *nak-e* 'cry-able' in (19b) consists of the stem *nak* 'to cry' and the potential morpheme *-(r)e* (which seems to share some properties with the passive *-(r)are*). This pair shows that the dative "cause" is indeed an argument selected by *nak* 'to cry', which is entitled to undergo movement to the subject position. Admittedly,



however, if context is provided, the subject in *cry* passives is compatible with an interpretation other than the cause (e.g. a Directional NP). Requirement of supportive context has been taken as one of defining properties of indirect passives (see Kubo 1992). Section 3.1.4 will review this property of indirect passives. Notably, however, all the indirect passives containing intransitives reviewed in this section do not require supportive context. Hence contrary to Kubo (1992), requirement of context cannot be a defining property of indirect or gapless passives.

This section has shown that some indirect passives, especially those not requiring supportive context, can be reinterpreted as having an active counterpart. If the “source”, “genitive”, “*on*-Directional”, and “cause” are indeed the internal source of the grammatical subjects in the indirect passives in (3), as Ishizuka (2012) proposes, then one of the critical defining properties of indirect passives – the lack of active counterparts – is no longer tenable.

### 3.1.2 Animacy effects

Another defining property of gapless (or indirect) passives lies in incompatibility with an inanimate or abstract subject (e.g. Kubo 1992: 239). This property has been taken as an argument in favor of *-(r)are* discharging the “affectee”  $\theta$ -role (e.g. Inoue (1976), Kuroda (1979), Hoshi (1991), and Kubo (1992)). The reasoning behind this comes from the fact that only sentient beings can be adversely/emotionally affected. However, animacy effects are not coextensive with all indirect passives: they are manifested in passives containing *nak-u* ‘cry’, but not in passives containing *waraw-u* ‘laugh’, as shown in (20a) and (20b).

- (20) a. *?\*Sono kabe no e ga minna ni nak-are-ta.*  
           that wall GEN picture NOM everyone DAT cry-PASS-PST  
           int. ‘That picture on the wall was cried over by everyone.’
- b. *Sono kabe no e ga minna ni waraw-are-ta.*  
           that wall GEN picture NOM everyone DAT laugh-PASS-PST  
           lit. ‘That picture on the wall was laughed at by everyone.’

According to Ishizuka (2010a, 2012), the grammatical subject in (20a) is originally licensed as a *ni*-marked “Cause”, while the one in (20b) as an *o*-marked “*at*-Directional” (i.e. *e-o warat-ta*, ‘laughed at the picture’). Since the NP in the subject position in the indirect passive varies in terms of its  $\theta$ -role, some distributional differences are expected in her analysis. In contrast, under the standard analyses, the grammatical subject always bears an affectee  $\theta$ -role assigned by *-(r)are*. If *-(r)are* were to select for an animate external argument, all instances of indirect passives (or gapless passives, at least) should be incompatible with an inanimate

subject, which is indeed the claim made by Kubo (1992). However, the prediction is not born out. Under the standard analyses, the indirect passives given in (20a) and (20b) mean that ‘that picture on the wall’ can be affected by laughter, but not by crying. This contrast seems to be difficult to explain for the traditional analyses. The indirect passive in (21) is another example whose grammatical subject is an inanimate NP.

- (21) *Sono ki wa ooame ni hu-rare (temo taore-nakat-ta).*  
 that tree TOP heavy.rain DAT descend-PASS even.though fall-NEG-PST  
 Lit. ‘(Although) that tree was descended on by heavy rain, (it did not fall down).’

Examples like (20b) and (21) lead us to conclude that the indirect passive *-(r)are* per se is not responsible for animacy effects found in some indirect passives. Nor can incompatibility with inanimate subjects be evidence for the standard analysis of *-(r)are* selecting for the affectee external argument. Understanding the animacy effects observable in some indirect passives calls for detailed examinations of the properties of each verb *-(r)are* combines with, which we are not able to cover in this chapter. See section 5.2 for further discussion on animacy effects manifested in some direct passives.

### 3.1.3 Adversative connotations

Another purported defining property of indirect passives is “adversative or affected connotations”. This is because many indirect passives carry connotations such that the referent of the grammatical subject is adversely affected by the event denoted in the rest of the sentence, as exemplified in the passives in (2) and (3) (Wierzbicka 1979; Kuroda 1979; Oehrle and Nishio 1981; Kuno 1983; Shibatani 1990; Washio 1993 among others). However, many linguists have noticed by now that not all indirect passives carry adversative connotations (e.g. Howard and Niyekawa-Howard 1976; Kitagawa and Kuroda 1992; Washio 1993). The indirect passive in (22) is a well-cited example, which contains an intransitive but lacks adversative connotations (Alfonso 1971; Shibatani 1990; Kitagawa and Kuroda 1992; Washio 1993):

- (22) *Bokura wa soto de sususii kaze ni huk-are-ta.*  
 we TOP outside LOC cool wind DAT blow-PASS-PST  
 ‘We enjoyed the cool wind outside.’ (Washio 1993: 63)  
 lit. ‘We were blown at by the cool wind outside.’

Under Ishizuka's unified raising analysis (2010a, 2012), the *wa*-marked topic is originally licensed as the *ni*-marked *at*-Directional of *huk* 'blow', as in (23).<sup>8</sup>

- (23) *Soto de suzusi kaze ga bokura ni hui-ta.*  
 outside LOC cool wind NOM we DAT blow-PST  
 'The cool wind blew at us outside.'

Conversely, the direct passive (24a) carries adversative connotations that are absent in the active counterpart (24b) (Howard and Niyekawa-Howard 1976).

- (24) a. *Hawai daigaku wa Satoo sensei ni yame-rare-ta.*  
 Hawaii university TOP Sato teacher DAT quit-PASS-PST  
 'The University of Hawaii had Professor Sato quit.'  
 b. *Satoo sensei wa Hawaii daigaku o yame-ta.*  
 Sato teacher TOP Hawaii university ACC quit-PST  
 'Professor Sato quit the University of Hawaii.'  
 (Howard and Niyekawa-Howard 1976: 211)

According to Howard and Niyekawa-Howard (1976: 211), (24a) implies that "the institution suffered, either because the professor was a valued asset or because the manner in which he left was such as to bring discredit to the institution." Examples like (22) and (24a) show that the adversative connotation cannot be a defining property of indirect passives.

Furthermore, affected interpretations are not a necessary condition for indirect passives like (3a) to be felicitous. Suppose that *Naomi* is the name of *Ken*'s cat, which often escapes. (3a) is felicitous even if *Ken* did not notice the cat's escape (i.e. if *Ken* did not notice, he was unlikely to be affected). Even the following string, which explicitly denies the affect of the cat's escape, is well-formed.

- (25) *Ken wa neko ni nige-rare-ta ga, sono koto de*  
 Ken TOP cat DAT escape-PASS-PST but that thing by  
*eikyoo o ukeru koto wa nakat-ta.*  
 effect ACC receive thing TOP NEG-PST  
 Int. 'Ken was affected by the cat's escape, but he was not affected by that.'

<sup>8</sup> One of the reviewers noted that if something precious is blown off by the wind, then the passive can no longer be analyzed as pseudo-passive, but should be taken as an indirect passive, with no active source. However, Japanese *huki-toba-su* 'blow off' is a transitive verb. Consequently, the following passive is another instance of (2)-type possessive passives: *Ken-ga kaze-ni [Ken-no syorui]-o huki-tobas-are-ta*. 'Ken had his documents blown off by the wind.'

Were *Ken* selected as an “affectee” argument of *-(r)are*, (25) would result in contradictions. The well-formedness of (25), however, shows that the adversative connotation carried by (3a) is just a conversational implicature, thus cancelable (see also Shibatani 2000: 142; Oshima: 2006: 158).

An important question remains: where does the adversative connotation come from if not from the affectee  $\theta$ -role of *-(r)are*? Ishizuka (2010a, 2012: 197–203) postulates that “affected” connotations arise from a particular structure while “adversity” connotations stem from metalinguistic factors – i.e. the choice of predicate and real-world knowledge. Specifically, her proposal is given in (26) (Ishizuka 2012: 198 – slightly modified):

(26) Affected and adversative connotations

- a. “Affected” connotations are a by-product of the structure in which the grammatical subject is originally licensed as a possessor of the internal argument, the Directional NP, or the source NP (*kara*-phrase) of the main verb *-(r)are* attaches to.
- b. “Adversative” connotations are attributable to (i) the lexical semantic/pragmatic properties of the main verb or (ii) the interaction between (i) and the  $\theta$ -role that the NP in the subject position is originally assigned.

First of all, possessive passives like (2) and (3b) generally carry strong adversely affected connotations. The affected connotation arises because the referent of the grammatical subject is “affected” by being the possessor of an affected object (i.e. the object that undergoes change) of the main verb, and the degree of affectedness perceived correlates with how much the possessed NP is affected by the activity denoted by the main verb. Compare in this regard the following two passives.

- (27) a. *Ken ga sensei ni musuko o sikar-are-ta.*  
 Ken NOM teacher DAT son ACC scold-PASS-PST  
 lit. ‘Ken was scolded his son by the teacher.’ (cf. Ken’s son was scolded.)
- b. *Ken ga sensei ni musuko o homer-are-ta.*  
 Ken NOM teacher DAT son ACC praise-PASS-PST  
 lit. ‘Ken was praised his son by the teacher.’ (cf. Ken’s son was praised.)

*Ken* in (27b) might be affected by the teacher’s praising of his son but very likely in a positive way, unlike in (27a). The contrast between (27a) and (27b) shows that adversative connotations possessive passives generally carry can be traced to the semantics of the main verb (see also Washio’s (1993: 51) idea of “lexical adversity”).

As evidenced by (3c), passives containing a Directional gap corresponding to the grammatical subject also carry affected connotations. The reason for this is that

the activity depicted by the predicate is directed at the referent of the grammatical subject. In particular, *on*-Directional passives carry strong affected connotations because the subject receives a direct impact from the event. If the event is unfavorable like raining, adversative connotations arise. In contrast, the following *at*-Directional passive is free from adversative connotations, illustrating that the availability of adversative connotations depends on the choice of the main verb.

(28) *at*-Directional passive

**Ken ga kawaii ko ni Ken-ni hohoem-are-ta.**

Ken NOM cute child DAT smile-PASS-PST

lit. 'Ken was smiled at by a cute girl.' (cf. 'A cute girl smiled at Ken.')

Similarly, passives with a source gap like (3a) and (29) carry affected connotations. The reason for this is not hard to see: it is that the subject NP is affected by being the source of an affected object (see also Pytkänen 2002).

(29) Source passive

**Ginkoo ga doroboo ni ginkoo-kara kokyaku no okane o**

bank NOM thief DAT customer GEN money ACC

**nusum-are-ta.**

steal-PASS-PST

lit. 'The bank was stolen the customers' money from by a thief.'

In (29) the bank is affected because the money is stolen "from the bank".<sup>9</sup>

One might say that a passive containing 'cry' like (3d) also carries affected connotations. However, it is not always the case that the Cause of an event in the passive is affected, as illustrated by the following passive containing *odorok-u* 'be.surprised'.

(30) *Naomi ga Ken ni odorok-are-ta.*

Naomi NOM Ken DAT be.surprised-PASS-PST

'Naomi was being surprised at by Ken.'

*Naomi* herself is unlikely to be affected by being the "cause" of *Ken*'s surprise unless there are special reasons she does not want to surprise *Ken*. By analogy, it seems reasonable to take the affected connotation carried by (3d) as a conversational implicature.

<sup>9</sup> Alternatively, the subject NP in this passive can be analyzed as an underlying possessor: [Bank's [customer's money]]. Since possessive passives are another type of passives that carry affected connotations, the observed affected connotations are accounted for by either of the analysis.

For reasons mentioned above, Ishizuka (2012) concludes that the adversely affected connotation indirect passives often carry is in fact a derived property, which arises from a particular structure and the semantics of the main verb. Now another question arises: if the NP in the subject position does not bear an affectee  $\theta$ -role, why can adversative contexts sometimes improve the acceptability of illicit indirect passives? The next section discusses this property in detail.

### 3.1.4 Requirement of Supportive Context

Contrary to what the traditional analyses predict, not all indirect passives are unequivocally well-formed, as we have already seen in (15) and (16). A supportive or adversative context that explicates how the subject of the passive is adversely affected by the event denoted in the rest of the sentence is argued to make such indirect passives acceptable. Three properties have been reported regarding context-requiring passives: (i) adversely affected connotations, (ii) animacy restriction on its subject, and (iii) individual variation over the acceptability judgment (e.g. Kubo 1992, Shibatani 1994). Note that the first two properties directly fall out from the requirement of adversative context. Namely, the referent of the grammatical subject has to be capable of perceiving adversity. Linguists like Kubo (1992) regard the context requirement as one of the defining properties of gapless passives, but this is empirically false as none of the gapless passives in (3) needs context to be acceptable.

Shibatani (1994: 465) proposes that the grammatical subject in the passive that needs contextual support is “extra-thematic” – i.e. not thematically licensed by the main verb *-(r)are* attaches to. In such extra-thematic passives, supportive context is indispensable in order to integrate the unlicensed NP into the structure. This is consistent with Ishizuka’s (2010a, 2012) idea that the passive does not need supportive context if it contains a gap corresponding to its grammatical subject. However, many questions remain. How does context introduce an additional NP into the passive? Is context a sufficient condition to license an additional NP? Is such a licensing mechanism available to all native speakers?

Addressing these questions, Ishizuka (2010a, 2012) proposes that the subject that is seemingly extra-thematic is in fact syntactically licensed (with a corresponding gap) and context helps people access the active counterpart of the passive when it is not so obvious without context. Specifically, Ishizuka (2010a, 2012) distinguishes between two cases where context improves the acceptability of a given passive: one involves a gap of a possessor or genitive NP, and the other involves a gap of the Directional NP. The two cases will be discussed in turn below.

Many of context-requiring indirect passives are actually instances of possessive passives. This is so because what has been considered adversative context is in fact possessor-priming context that establishes a genitive relation between the grammatical subject and the internal argument (i.e. the direct object of transitives or the

subject of unaccusatives) or the locative. Consider the following seemingly gapless passive:

- (31) *Ken wa Naomi ni [tosyokan no hon] o kari-rare-ta.*  
 Ken TOP Naomi DAT library GEN book ACC check.out-PASS-PST  
 lit. ‘Ken was checked out the book from the library by Naomi.’  
 int. ‘Ken had the library book checked out by Naomi.’

Since *Ken* is not thematically licensed by the verb *kari-ru* ‘to check out’, (31) is predicted to be ill-formed under Ishizuka’s unified raising analysis and it indeed does not sound good. However, “possessor priming” contexts like (32) that establish a “genitive relation” between *Ken* and *library book* significantly improve the acceptability of (31) (see Ishizuka 2012: 113).

- (32) Context inducing a “genitive relation”  
*Ken* went to the library to check out a book, which he needed in order to write a report for his class. However, the book was unavailable, and he found that *Naomi*, who was taking the same class as him, had already checked it out.

In this context, the book *Naomi* checked out was actually “Ken’s library book” (i.e. the book Ken was going to check out). The context makes the following active counterpart readily accessible:

- (33) *Naomi ga [Ken no [tosyokan no hon]] o kari-ta.*  
 Naomi NOM Ken GEN library GEN book ACC check.out-PST  
 ‘Naomi checked out Ken’s library book.’

Genitive *no*-phrases in Japanese can encode a wide variety of relations, some of which are very loose. For example, *Tomu-no bus* can be used if one is talking about “the bus Tom regularly takes” (i.e. a habitual relation), and *watasi-no toori* ‘my street’ can be used to mean “the street my car is parked on”. The possessor-priming context is indispensable in order to license such a relative clause-like genitive relation (see section 4.3.1 for more discussion on possessors). In addition, what counts as a possessive relation seems to “vary across speakers” as some people have more tolerance than others, allowing very loose relationships between the two NPs (Vergnaud and Zubizarreta 1992; Shibatani 1994, among others). Ishizuka’s syntactic approach to the idea of possession predicts that the same variability will carry over to the possessive passive counterpart. In this way, the interspeaker variability observed with context-requiring passives like (31) is successfully accounted for. Further, the affected connotation arises from the passive as well as the supportive context since the referent of the grammatical subject is licensed as the possessor of an affected object (see (26a)).

There are also cases that cannot be analyzed as possessive passives. Consider the passives in (34) containing simple unergatives. In these cases a possessive passive interpretation is unavailable since the *ni*-marked NPs are the external argument of unergatives.

- (34) a. *\*?Ken ga Naomi ni oyog-are-ta.*<sup>10</sup>  
           Ken   NOM Naomi   DAT swim-PASS-PST  
           lit. ‘Ken was swum by Naomi.’  
           int. ‘Ken was affected by Naomi’s swimming.’
- b. *\*?Ken ga Naomi ni odor-are-ta.*  
           Ken   NOM Naomi   DAT dance-PASS-PST  
           lit. ‘Ken was danced by Naomi.’  
           int. ‘Ken was affected by Naomi’s dancing.’
- c. *\*?Ken ga Naomi ni hatarak-are-ta.*  
           Ken   NOM Naomi   DAT work-PASS-PST  
           lit. ‘Ken was worked by Naomi.’  
           int. ‘Ken was affected by Naomi’s working.’

Unlike the indirect passives in (3), the passives in (34) are not acceptable, at least without some kind of adversative context. The observed contrast in acceptability is not predicted under the traditional analyses of indirect passives. Conversely, it is exactly what Ishizuka (2010a, 2012) expects if the indirect passives in (3) are not gapless but pseudo-passives. (35) shows that the grammatical subject *Ken* does not have a clause internal source, thus the passives in (34) appear to be true gapless cases.

- (35) *\*Naomi ga Ken {o/ni/kara} {oyoida/odotta/hataraita}.*  
       Naomi   NOM Ken   {ACC/DAT/ABL} {swam/danced/worked}  
       lit. ‘Naomi {swam/danced/worked} {to/from} Ken.’

Contrary to the accepted wisdom, many speakers Ishizuka asked did not accept the passives in (34) even in context (for results of grammaticality judgment surveys, see Ishizuka 2010a, 2012: 42). Shibatani (1994) aptly captures such a situation by saying “there is a great deal of individual variation over the acceptability judgment ... a greater amount of semantic augmentation is required as the ostensible relevance

<sup>10</sup> It should be noted that (34a) does not necessitate context if an overt adverbial like *saki-ni* ‘before’ is added. This is probably because the addition of the adverb in fact changes the structure of (34a) by providing a comparative active source for the derived subject *Ken* (i.e. *Ken-yori saki-ni* ‘earlier than Ken’) (See Ishizuka 2010a, 2012 for more details).



between the referent of an extra-thematic argument and the described scene gets smaller” (Shibatani 1994: 467–468). The analytical question is, however, for speakers who accept (34)-type passives in context, exactly how the extra-thematic subjects are licensed. Drawing on the similarities between extra-thematic passives and passives with the Directional gap like (36a), Ishizuka (2012) speculates that context might allow some speakers to license the extra thematic subject as a dative Directional NP in the active counterpart. Consider the following passive and its active counterpart.

- (36) a. *Densya de Naomi ga roozin ni seki o s-are-ta.*  
 train LOC Naomi NOM old.man DAT cough ACC do-PASS-PST  
 ‘In the train, Naomi was coughed on by an old man.’
- b. *Densya de roozin ga Naomi ni seki o si-ta.*  
 train LOC old.man NOM Naomi DAT cough ACC do-PST  
 ‘In the train, an old man coughed on Naomi.’

Both (36a) and (36b) carry strong adversely affected connotations, and the grammatical subject of (36a) must be animate. Further, there is a great deal of interspeaker variation in terms of whether or not the verb *su-ru* ‘to do’ can select for a dative Directional in the active and the variability seems to carry over to the passive counterpart (See Ishizuka 2012: 223 for results of a grammaticality judgment survey). Further, according to the speakers who accept (34a), their interpretation of the sentence is similar to that of (37). Although (37) does not sound natural at all, it can be interpreted in such a way that Naomi’s activity was directed to Ken, and thereby he was adversely affected.

- (37) a. *Ken ga Naomi ni oyogukoto o s-are-ta.*  
 Ken NOM Naomi DAT swimming ACC do-PASS-PST  
 lit. ‘Ken was done the swimming to by Naomi.’
- b. *Naomi ga Ken ni oyogukoto o si-ta.*  
 Naomi NOM Ken DAT swimming ACC do-PST  
 lit. ‘Naomi did the swimming to Ken.’

Based on such observations, Ishizuka (2012) hypothesizes that supportive context allows *some* speakers to insert a silent verbal head like *su-ru* ‘do’, which introduces a dative Directional NP.<sup>11</sup> Subsequently, the directional NP moves to the subject

<sup>11</sup> One reviewer pointed out that the “cry” passive in (3d) could depict the state of affairs such that Ken wants to quietly watch a movie but his child ruins his quiet time by crying. In this case, the subject *Ken* seems to be interpreted not as the cause but as the *ni*-marked Directional. Thus, this can be taken as another instance of (34)-type passives.

position in the passive to satisfy the subject requirement. The idea of a silent verbal head is very similar to Pyllkkänen's high applicatives that assign a malefactive  $\theta$ -role. The difference between the two approaches is that Pyllkkänen's high applicative is merged above the external argument of the main verb while the Directional NP is merged below the external argument, just like regular ditransitive verbs taking a goal or addressee. Further research is needed in order to identify the distribution of the optional dative Directional introduced by a silent verbal head and the reason that some speakers (e.g. those who consistently reject passives of (34)-type even in context) lack this silent head in their grammar.

The discussion in this section has shown that the purported defining properties of indirect passives are all untenable. This is because the generalizations are based on an incomplete version of the empirical paradigm, and once more data are examined, we find that the generalizations no longer hold. Without a property that draws a clear line between the direct and indirect passives, we must conclude that the traditional dichotomy is not only unnecessary but also empirically inadequate.

### 3.2 Evidence for and against a movement analysis of passives

The literature assumes, without exception, that indirect passives derivationally involve clausal complementation but no movement. This is not surprising since the gap corresponding to the grammatical subject in indirect passives has never been acknowledged. However, if the pseudo-passive analysis of indirect passives is correct, the analytical question is what is the relation between the subject and the gap, movement or obligatory control? Linguists advocating the “non-uniform theory”, such as Miyagawa (1989), Shibatani (1990), Terada (1990), and Kubo (1992), have capitalized on the distributional differences between the direct and indirect passives and argued that only the direct passive involves movement. However, since the positions in which the grammatical subject originates differ in the two types of passives, some distributional differences are expected. In this section, three classic arguments, which are said to highlight the structural difference between the two passives, will be reviewed: the three arguments are: (i) the behavior of numeral quantifiers, (ii) the interpretation of *zibun* ‘self’, and (iii) the adjunct vs. argument status of the dative *by*-phrase.

Examining the behavior of numeral quantifiers, Miyagawa (1989) argues that direct passives involve movement. As is well-known, Miyagawa (1989) has proposed that the numeral quantifier must be in a strict sisterhood relation with its associated NP (in traditional terms, a mutual c-command relation). However, (38) is well-formed even though *ni.dai* is not in a strict sisterhood relation with *kuruma*.

- (38) *Kuruma<sub>i</sub> ga doroboo ni t<sub>i</sub> ni.dai nusum-are-ta.*  
       car           NOM thief       DAT       two.CIF steal-PASS-PST  
       int. ‘Two cars were stolen by a thief.’ (Miyagawa 1989: 38)

According to Miyagawa (1989), the strict sisterhood condition between the stranded numeral quantifier and its associated NP in (38) is satisfied by the trace of the NP *kuruma*, which is moved to the subject position. Thus, the availability of the numeral quantifier stranding has been taken as evidence for the movement derivation in the direct passive. Then how about indirect passives? Do they also allow numeral quantifier stranding? Unfortunately, they do not, as exemplified in (39).

- (39) a. \***[Keimusyo t<sub>i</sub>]<sub>j</sub>** ga syuuzin ni t<sub>j</sub> **hutatu<sub>i</sub>** nige-rare-ta.  
 prison NOM prisoner DAT two.clF escape-PASS-PST  
 int. ‘**Two prisons** were escaped from by (their) prisoners.’
- b. \***[Seito t<sub>i</sub>]<sub>j</sub>** ga Yamada-sensei ni t<sub>j</sub> **hutari<sub>i</sub>** nak-are-ta.  
 student NOM Yamada-teacher DAT two.clF cry-PASS-PST  
 int. ‘**Two students** were cried over by Mr. Yamada.’

Does the unavailability of numeral quantifier stranding like (39a) and (39b) argue against the movement derivation of indirect passives? Ishizuka (2010a, 2012: 146–157) explains that the unavailability of numeral quantifier stranding in (39a) and (39b) comes from other sources. As illustrated in (40b) and (40c), unlike in (40a), the numeral quantifier cannot move out of its hosted NP “even in the active” if the NP originates as the oblique of the verb.

- (40) a. *Doroboo* ga [**kuruma t<sub>i</sub>**] o **sandai<sub>i</sub>** nusun-da.  
 thief NOM car ACC three.clF steal-PST  
 int. ‘A thief stole **three cars**.’
- b. *Syuuzin* ga [**keimusyo t<sub>i</sub>**] kara (\***hutatu<sub>i</sub>**) nige-ta.  
 prisoner NOM prison ABL two.clF escape-PST  
 int. ‘A prisoner escaped from **two prisons**.’
- c. *Yamada-sensei* ga [(*seito no*) **uragiri t<sub>i</sub>**] ni (\***hutatu<sub>i</sub>**) nai-ta.  
 Yamada-teacher NOM student GEN betrayal DAT two.clF cry-PST  
 int. ‘Mr. Yamada cried over **two (student’s) betrayals**.’

Without being able to move out of its original NP in the active, the numeral quantifier is not entitled to be stranded from its hosted NP in the passive. Significantly, the data is consistent with the standard assumption that stranding of numeral quantifier is possible from arguments but not from adjuncts (see Nakanishi 2008 for an extensive review on numeral quantifiers). For this reason, (39a) and (39b) cannot be taken as evidence against the movement analysis of indirect passives, although the well-

formedness of (38) indeed provides evidence for the movement analysis of direct passives.<sup>12</sup>

Another classic argument in favor of distinguishing between the derivations of the two types of passives comes from the behavior of the *ni*-phrase with respect to *zibun*-binding (N. McCawley 1972; Kuno 1973, among others). The anaphor *zibun* is known as a long distance subject-oriented anaphor, which can be bound either by the local subject or by the subject of the matrix clause (e.g. Kuroda 1965; Postal 1970). Concerning passives, the generalization is that in direct and possessive passives *zibun* can refer only to the grammatical subject while in gapless passives it is ambiguous and can refer to both the grammatical subject and the dative *by*-phrase (i.e. the logical subject of the main verb). This is illustrated in (41).

(41) a. Direct Passive

*Mary<sub>i</sub> wa John<sub>j</sub> ni [zibun<sub>i/\*j</sub> no uti] de koros-are-ta.*  
 Mary TOP John DAT self GEN house LOC kill-PASS-PST  
 ‘Mary was killed by John in self<sub>i/\*j</sub>’s (=Mary’s) house.’ (Kuno 1973: 299)

b. Possessive passive

*John<sub>i</sub> wa Mary<sub>j</sub> ni [zibun<sub>i/\*j</sub> no heya] de atama o nagur-are-ta.*  
 John TOP Mary DAT self GEN room loc head ACC hit-PASS-PST  
 lit. ‘John was hit the head by Mary in self’s (=John’s) room.’  
 (cf. Kuroda 1979)

c. Indirect (or gapless) passive

*John<sub>i</sub> wa Mary<sub>j</sub> ni [zibun<sub>i/j</sub> no koto] o zimans-are-ta.*  
 John top Mary DAT self GEN matter ACC brag-PASS-PST  
 ‘John suffered from Mary’s bragging about self’s (=John’s or Mary’s) matter.’  
 (Kuno’s translation 1973: 304; N. McCawley 1972)

This leads to the standard assumption that the dative phrase in direct passives is an adjunct, whereas the one in indirect passives is an external argument of the main verb (N. McCawley 1972; Kuno 1973).<sup>13</sup> However, as noted by Miyagawa (1989: 40)

<sup>12</sup> The distribution of the numeral quantifier with respect to the dative *by*-phrase in the two types of passives is also discussed in the literature. The complication is that the grammaticality of sentences with the stranded numeral quantifier from “external” and “dative” arguments involves subtle judgments and gradations, and not all linguists agree with the data critical to the leading proposals. Thus, I will not cover this issue here. See Ishizuka (2010a, 2012: 146–157) for more information.

<sup>13</sup> Another motivation for the adjunct status of the *ni*-phrase of the direct passive comes from the observation that the *ni*-phrase of direct passives can be suppressed, while that of indirect passives cannot (e.g. Terada 1990; Kubo 1992; Hoshi 1994). However, this generalization is empirically incorrect, since the indirect passive derived from *waraw-u* ‘to laugh’ is well-formed without an overt dative *by*-phrase. Further, not all direct passives are felicitous without a dative *by*-phrase. Because of space limitations, we are unable to discuss this matter. See Ishizuka (2010a, 2012) for more information.

and Kubo (1992: 251), the dative phrase in “direct passives” is not restricted to “agent” but is compatible with a wide variety of  $\theta$ -roles introduced by the main verb (e.g. “cause” (42a), “experiencer” (42b), “source” (42c), “goal” (42d)). This is unexpected if the dative phrase is an adjunct.

- (42) a. *Naomi ga [kaisya ga toosan-si-ta to iu*  
 Naomi NOM company NOM bankrupt-do-PST that say  
*zizitu] ni utinomes-are-ta.*  
 fact dat damage-PASS-PST  
 lit. ‘Naomi was damaged by the fact that her company went bankrupt.’  
 (Cause)
- b. *Sono kyoozyu ga **gakuseitai** ni kowagar-are-ta.*  
 that professor NOM students DAT fear-PASS-PST  
 ‘That professor was feared by the students.’ (Experiencer)
- c. *Ken ga **Naomi** ni hanataba o okur-are-ta.*  
 Ken NOM Naomi DAT flower ACC send-PASS-PST  
 ‘Ken was sent a flower bouquet by Naomi.’ (Source)
- d. *Sono inu wa **Ken** ni moraw-are-ta.*  
 that dog TOP Ken DAT receive-PASS-PST  
 ‘That dog was received by Ken.’ (Goal)

Consequently, the standard adjunct story cannot be adopted. Then what brings about the attested differences? Notably, (41c) contains a “verb of speaking” that optionally takes a dative “addressee” in addition to a “theme” (i.e. a pseudo-ditransitive verb). Ishizuka (2010a, 2012) proposes that the ambiguity with respect to the interpretation of *zibun* in (41c) in fact reflects structural ambiguity; one involves raising of the dative “addressee”, and the other involves possessor-raising from the “theme”. The first structure coupled with its active counterpart is provided below:

- (43) a. *John<sub>i</sub> wa **Mary<sub>j</sub>** ni t<sub>i</sub> [**zibun<sub>j</sub>** no koto] o zimans-are-ta.*  
 John TOP Mary DAT self GEN matter ACC brag-PASS-PST  
 lit. ‘John was bragged to by Mary about self’s (=Mary’s) matter.’
- b. ***Mary<sub>i</sub>** ga John ni [**zibun<sub>i</sub>** no koto] o zimansi-ta.*  
 Mary NOM John DAT self GEN matter ACC brag-PST  
 ‘Mary bragged about self’s (=Mary’s) matter to John.’

(43a) is compatible with the reading in which *John* suffered (if he suffered at all) because Mary bragged about herself to him. *Zibun* refers only to *Mary* in (43a), as

well as in its active counterpart (43b). This is so because the verb *zimana-su-ru* is a “verb of speaking”, imposing the logophoric center on *Mary*.

The second structure and its proposed active counterpart are given in (44).

- (44) a. *John<sub>i</sub> wa Mary ni pro [John-nø **[zibun<sub>i</sub> no koto]] o***  
           John TOP Mary DAT                                   self       GEN matter ACC  
           *zimana-sare-ta.*  
           brag-PASS-PST  
           lit. ‘John<sub>i</sub> was bragged to by Mary about self’s (=John’s) matter.’
- b. *Mary wa pro [John<sub>i</sub> no (**zibun<sub>i</sub>** no) koto] o zimana-si-ta.*  
           Mary TOP       John GEN self       GEN matter ACC brag-PST  
           ‘Mary bragged about John’s self’s (=John’s) matter to someone.’

(44a) is compatible with the reading in which *John* suffered because *Mary* bragged about him to somebody. Namely, *John* is the underlying “possessor” of the theme *Mary* bragged about. Ishizuka (2010a, 2012) proposes that *zibun* in (44b) is used emphatically, albeit a bit redundant. Significantly, neither of the two structures is a gapless passive.<sup>14</sup> Consequently, the well-cited example (41c) does not show that indirect passives are ambiguous in terms of *zibun*-binding.

Now the question is whether all the dative *by*-phrases in Japanese passives behave the same way with respect to *zibun*-binding, as the unified analysis predicts. The situation is not straightforward. In the “source” passive (45a) and the “at-Directional” passive (45b), *zibun* can be bound only by the grammatical subject. This is the same as *zibun* in the direct passive (41a). In contrast, in the possessive passive (45c), where the referent of the grammatical subject associates with the dative phrase, its interpretation is ambiguous and can be bound either by the subject or by the dative phrase.

- (45) a. *Ken<sub>i</sub> ga Naomi<sub>j</sub> ni [**zibun<sub>i/\*j</sub>** no daigaku] de nige-rare-ta.*  
           Ken NOM Naomi DAT self       GEN college LOC escape-PASS-PST  
           lit. ‘Ken was escaped from by Naomi at self’s (=Ken’s) college.’
- b. *Ken<sub>i</sub> ga Naomi<sub>j</sub> ni [**zibun<sub>i/\*j</sub>** no kyoositu] de hohoem-are-ta.*  
           Ken NOM Naomi DAT self       GEN classroom LOC smile-PASS-PST  
           lit. ‘Ken was smiled at by Naomi in self’s (=Ken’s) classroom.’

<sup>14</sup> Similar to *zimana-su-ru* ‘to brag’, Japanese has many “verbs of speaking” that optionally select a dative “addressee” (e.g. *kokuhakusu-ru* ‘to confess’, *sasayak-u* ‘to whisper’, *sirase-ru* ‘to inform’, *hokokusu-ru* ‘to report’). In fact, many purported gapless passives discussed in the literature (e.g. Kuno 1973; Kuroda 1979) can be reanalyzed as passives whose subject is the underlying *ni*-marked addressee, as exemplified in (43a).

- c. *Ken<sub>i</sub> ga musuko<sub>j</sub> ni [zibun<sub>i/j</sub> no heya] de sin-are-ta.*  
 Ken NOM son DAT self GEN room LOC die-PASS-PST  
 ‘Ken had his son die on him in self’s (=Ken’s/his son’s) room.’  
 (Shibatani 1990: 321).

Furthermore, in the following possessive passive, the interpretation is ambiguous (compare it with (41b)).

- (46) *Ken<sub>i</sub> ga Naomi<sub>j</sub> ni [zibun<sub>i/j</sub> no heya] de*  
 Ken NOM Naomi DAT self GEN room LOC  
~~*Ken-nø*~~ *(kakusiteita) okasi o tabe-rare-ta.*  
 hidden candy ACC eat-PASS-PST  
 ‘Ken had Naomi eat his (hidden) candy in self’s (=Ken’s/Naomi’s) room.’

The readings of *zibun* in the direct and indirect passives vary depending on the main verb *-(r)are* attaches to and the active source of the grammatical subject. Thus, nothing can be concluded from the above data, except that the ambiguity in terms of the interpretation of *zibun* is neither a characteristic of indirect passives, nor evidence for the argument (i.e. non-adjunct) status of the dative phrase in the indirect passive. Understanding the exact mechanism of *zibun*-binding in the passive awaits future research.

In this section, I have reviewed the defining properties of indirect passives as well as classic arguments against the movement analysis of indirect passives, and have demonstrated that none of the arguments are conclusive. Now we are ready to introduce Ishizuka’s (2010a, 2012) unified raising analysis of Japanese passives.

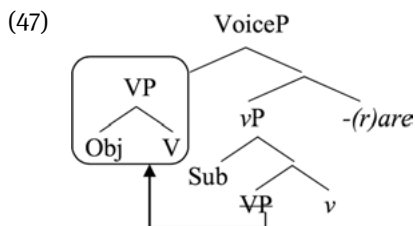
## 4 A unified raising analysis

Crucial for Ishizuka’s (2010a, 2012) proposal is the assumption that Japanese has only one *-(r)are* with invariant features. This means that all types of passives containing *-(r)are* project the same substructure, with particular movements triggered by the properties of *-(r)are* and the main verb *-(r)are* attaches to.

### 4.1 Properties of *-(r)are*

Assuming that *-(r)are* never introduces an argument, Ishizuka (2010a, 2012: 28) proposes the following properties of *-(r)are*:

1.  $-(r)are$  selects for an active  $vP$  as its complement, and thus can never take a middle, non-agentive unaccusative, or passivized VP (e.g. *ware-ru* ‘break<sub>intr</sub>’, *nuge-ru* ‘to undress’).
2.  $-(r)are$  has an edge (EPP) feature that attracts a VP layer to its specifier (cf. Collins’ (2005) smuggling analysis for English passives).



The first property – incompatibility with non-agentive unaccusative and passive predicates – has already been noted by Washio (1989) and Shibatani and Pardeshi (2002).

- (48) a. \**Taroo wa zubon ni nuge-rare-ta.*  
           Taro TOP pants DAT undress-PASS-PST  
           int. ‘It happened to Taro that his pants fell off.’
- b. \**Watasi wa musuko ga (dareka ni) nagur-are-rare-ta.*  
           I TOP son NOM someone DAT hit-PASS-PASS-PST  
           int. ‘I was affected by the fact that my son was hit (by someone).’  
           (Washio 1989)

The strings like *nuge-rare* and *nagur-are-rare* are not legitimate in Japanese, and the ill-formedness of (48a) and (48b) directly falls out from the complement property of  $-(r)are$ . As shown in (3), however,  $-(r)are$  can combine with other unaccusatives like *sin-u* ‘to die’ or *nige-ru* ‘to escape’. Ishizuka (2010a, 2012) hypothesizes that this is because, unlike *nuge-ru* ‘undress’, unaccusatives like *sin-u* and *nige-ru* can optionally introduce an “active  $vP$ ” layer, which can combine with  $-(r)are$ .

Significantly, as Collins (2005) does for English passives, Ishizuka (2010a, 2012) assumes that  $-(r)are$  absorbs neither an external argument nor accusative Case. The *o*-marked NP remains intact in the passive containing a dative “goal” or “addressee” gap, as illustrated in passives like (12), (43a), and (49) (Inoue 1976; Shibatani 1978: 141; Kubo 1992, among others).

- (49) *Naomi ga Ken ni Naomi-ni tomodati o syookais-are-ta.*  
       Naomi NOM Ken DAT friend ACC introduce-PASS-PST  
       lit. ‘Naomi was introduced his friend to by Ken.’



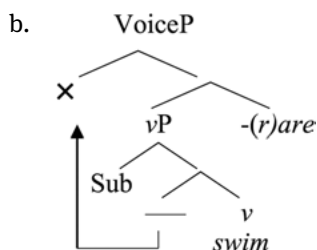
As is well-known, Japanese allows only one accusative Case in a clause (known as Harada's Double-*o* constraint (1973)). The fact that (49) contains an overt *o*-marked NP shows that *-(r)are* does not absorb accusative Case. Under Ishizuka's (2010a, 2012) proposal, the accusative Case *-o* is stranded when the underlying direct object moves to the subject position, and the stranded *-o* is unable to survive without a phonological host. Further, the logical subject of the main verb receives dative Case from *-(r)are*, appearing as a dative *by*-phrase (See Ishizuka 2010a, 2012: 74 for the details of this process).

We now turn to the specifier property of *-(r)are*. This property is very important, as it is this edge feature of *-(r)are* that smuggles the internal argument past the external argument, yielding passivization.

## 4.2 Motivating the specifier feature of *-(r)are*

As shown in (34), Ishizuka (2010a, 2012) observes that *-(r)are* cannot combine with some unergative verbs like *oyog-u* 'to swim', *odor-u* 'to dance', and *hatarak-u* 'to work', at least without supportive context (cf. Pylkkänen 2000, 2002). This phenomenon directly follows from the proposed specifier property of *-(r)are*. If we assume, with Abels (2003) and Kayne (2005), the general ban on a movement operation from an immediate complement to its specifier position (i.e. *vP* – the complement of *-(r)are* – cannot move to the specifier of VoiceP), the only way to satisfy the specifier condition of VoiceP is to strand the *vP* and move the VP to the specifier of VoiceP (see (47)). In other words, the specifier feature of *-(r)are* in effect forces the structure of the main verb to contain at least two separable VP layers with the lower layer containing overt lexical materials. Assuming that in unergatives, a lexical root and *v* coalesce into *vP*, *-(r)are* cannot merge with simple unergative verbs lacking a VP layer. The ill-formed examples given in (34) contain such simple unergative verbs.

- (50) a. \**Ken ga Naomi ni oyog-are-ta.*  
           Ken   NOM Naomi   DAT swim-PASS-PST  
           int. 'Ken was affected by Naomi's swimming.'



The specifier feature of  $-(r)are$  raises the question of why other unergatives, such as *waraw-u* ‘laugh’ and *nak-u* ‘cry’, are compatible with  $-(r)are$ . Given the proposed syntactic properties of  $-(r)are$ , these predicates must be complex, with at least two layers with a lower layer having overt materials (i.e. they have a pseudo-transitive use). As discussed earlier, *waraw-u* and *nak-u*, at least in the indirect passive context, take an *o*-marked “Directional” and a *ni*-marked “Cause” respectively, thus they are indeed complex. Consequently, under Ishizuka’s (2010a, 2012) analysis, the puzzling distribution of  $-(r)are$  with respect to unergative verbs is reduced to the difference in their syntactic structures.<sup>15</sup>

### 4.3 General properties of Japanese interacting with $-(r)are$

The proposed syntactic properties of  $-(r)are$  interact with the following general properties of Japanese: (i) the subject requirement of the main clause (i.e. EPP of matrix T – Shibatani 1977), (ii) the lack of *there* expletives (e.g. Fukui 1986; Miyagawa 1989; Terada 1990; Heycock 1993), (iii) the disappearance of Case-markers or postpositions under movement (Kameshima 1989), and (iv) the availability of possessor-raising (e.g. Kuroda 1988, 1992; Kubo 1992; Ura 1996; Hiraiwa 2002; Ishizuka 2009, 2010b, 2011).

Many languages that allow impersonal passives, like Dutch, German, Turkish, and Latin, have a *there* expletive or a covert expletive (i.e. *pro*) (see Shibatani 1990; Keenan and Dryer 2007: 17, among others). However, Japanese lacks an overt or covert *there* expletive, thus impersonal passives are impossible, as illustrated in (51).

- (51) \**Ooku.no hito ni sin-are-ta.*  
       many people DAT die-PASS-PST  
       int. ‘There were died by many people.’ (Miyagawa 1989)

Without the option of having an expletive occupy the subject position, an NP available besides the logical subject of the main verb (i.e. a direct or indirect object or a genitive or oblique NP) obligatorily moves to satisfy the subject requirement of the matrix clause. Specifically, the highest, among the smuggled NPs in the VP layer, must move to the subject position. Accordingly, NP-movement in Japanese passives takes place not for Case reasons but for the subject requirement.

You might wonder why many passives have been considered gapless if the subject position is always a non-thematic position. This is because of the last two properties listed above – (iii) movement operations in Japanese force the postposition or

<sup>15</sup> One reviewer questioned the validity of dividing unergative verbs into two types – “swim”-type and “laugh”-type. The distinction is just for explanatory purposes. Enriching the structure by adding an additional verbal layer licensing a Directional NP (see section 3.1.4) or by embedding the verb under the causative  $-(s)ase$  allows the “swim”-type unergative verbs to undergo passivization.

case marker to disappear, leaving no overt clues to the derivation (briefly discussed in section 3.1.1) and (iv) Japanese allows possessors to move out of the original possessive NP to the subject position in the passive (i.e. possessor-raising operations are possible in Japanese), as shown in (2) and (3b) (see sections 3.1.1. and 3.1.4). The next section reviews the properties of possessor-raising and why some instances of possessive passives are wrongly taken as gapless.

#### 4.3.1 Possessor-raising

Japanese allows possessor-raising, which is an operation that moves a possessor – to be more precise, a *no*-marked genitive – to a Case position external to the possessive NP in which it is licensed (e.g. Kubo 1992; Kuroda 1988, 1992; Ura 1996; Hiraiwa 2002; Ishizuka 2009, 2010b, 2011). This operation feeds into multiple nominative constructions – a sentence with more than one nominative NP – and passive constructions, where the genitive NP moves to the subject position to satisfy the subject requirement.

(52) a. Multiple Nominative

*Syoonen ga [syoonen-no ziten-sya] ga nakunat-ta.*  
 boy NOM bike NOM disappear-PST  
 lit. 'The boy, his bike disappeared.'

b. Possessive Passive

*Syoonen ga [syoonen-no ziten-sya] o kowas-are-ta.*  
 boy NOM bike ACC break-PASS-PST  
 lit. 'The boy was broken his bike.' ('The boy had his bike broken.')

The application of possessor-raising operations yields a wide variety of Japanese passive sentences that cannot be literally translated into English (see also (2) and (3b))

The possessor-raising analysis of (2)-type passives is not new (e.g. Shibatani 1990, Terada 1990, Kubo 1992). However, prior research is too restrictive, assuming that possessor-raising is possible only from the direct object and only with *no*-phrases encoding canonical possessive relations, such as ownership, kinship, and/or inalienable (whole-part/body-part) relations.

Ishizuka's (2010a, 2012) proposal differs from the previous ones in three respects, which all contribute to the uniqueness of Japanese passives. First, as stated in section 3.1.1, it does not restrict the source of external possessors to within the direct object. The genitive NP should be able to move to the subject position as long as it is licensed as a genitive NP of the highest NP in the smuggled VP domain (i.e. the internal argument). This includes the logical subject of "unaccusative" verbs, such as *sin-u*

‘die’. Consequently, the purported indirect passive (3b), repeated below as (53), is now subsumed under possessive passives:

- (53) *Naomi<sub>i</sub> ga [t<sub>i</sub> musuko] ni sin-are-ta.*  
 Naomi NOM son DAT die-PASS-PST  
 lit. ‘Naomi was died by her son.’ (‘Naomi had her son die on her.’)

Second, in Ishizuka’s proposal (2010a, 2012) the NP occupying the subject position in possessive passives is not restricted to canonical possessors. This is so because she defines the possessive relation as a “particular syntactic configuration” (i.e. NP-internal subject in the frame of [Possessor-*no* Possessed.NP]). As we have seen in section 3.1.4, this syntactic frame encodes a wide variety of relations, some of which are very loose, like reduced relative clauses, especially if context is provided.<sup>16</sup> The smuggling analysis imposes no semantic restrictions on the *no*-phrase that can satisfy the subject requirement of the matrix clause as long as it can “move out of its possessive NP” where it originates. Extending the potential active source of the subject to non-canonical possessors allows us to realize that many instances of purported indirect passives actually involve possessor-raising, as we have seen in (3.1.4). The following passive is an example that appears to be gapless at first glance:

- (54) *Sono hito<sub>i</sub> wa [t<sub>i</sub> kankyaku ni] inemuris-are-ta.*  
 that person TOP audience DAT doze-PASS-PST  
 lit. ‘That person was dozed by his audience.’

People who accept (54) must interpret ‘that person’ as a performer or an organizer of the event, thus unconsciously creating an underlying possessor source for ‘that person’ (i.e. [that person’s audience]). The possessive relation between ‘that person’ and ‘audience’ might not be evident, but replacing ‘that person’ with another NP like ‘that comedian’ elucidates the presence of a possessive relation between the two NPs, which can be syntactically realized as a genitive phrase (i.e. *sono manzaishi-no kankyaku* ‘that comedian’s audience’). Consequently, under Ishizuka’s proposal

<sup>16</sup> This is obviously an oversimplification: although various kinds of relations are realized in the [NP-*no* NP] frame, their internal structures appear to differ. Clearly non-restrictive *no*-phrases (e.g. *kasyu-no Naomi* ‘Naomi, who is a singer’) do not undergo possessor-raising. Further, inalienable (whole-part/body-part) possessors, which can appear as an external possessor, in fact show different distribution from other types of possessors in many languages including Japanese (Shibatani 1990, 1994; Ishizuka 2010b). For example, Ishizuka (2010b) shows that body-part possessors distribute differently from other types of possessors in A’-contexts, such as relativization and topicalization. However, the distributional difference due to the relation type does not come to the surface in the passive (A-movement) context. Therefore, this chapter does not distinguish inalienable possessors from alienable possessors. However, this is not to claim that all “NP-*no* NP” phrases have the same underlying structure.

(2010a, 2012) the seemingly gapless passive (54) is another instance of possessive passive, with a gap within the dative corresponding to the grammatical subject *sono hito* ‘that man’.

Third, Ishizuka’s (2010a, 2012) proposal differs from previous ones in assuming that the highest (or outermost) among the “stacked possessors” is eligible to move to the subject position. One important property of genitive phrases, which has not been taken into consideration in the context of the passive, is their stackability (e.g. *Ken-no kinoo-no sinbun*, ‘Ken’s yesterday’s paper’) (cf. Fukui 1986). Consider the following possessive passives disguised as indirect passives.

- (55) a. *Mary ga John ni [kyoo no sinbun] o yabuk-are-ta.*  
 Mary NOM John DAT today GEN paper ACC tear-PASS-PST  
 ‘Mary had today’s newspaper torn by John.’
- b. *Mary ga John ni sono tegami o yom-are-ta.*  
 Mary NOM John DAT that letter ACC read-PASS-PST  
 ‘Mary had that letter {of hers/about her} read by John.’  
 (Watanabe 1996: 116)
- c. *Mary ga John ni [himitu no tegami] o yom-are-ta.*  
 Mary NOM John DAT secret GEN letter ACC read-PASS-PST  
 ‘Mary had a secret letter {of hers/about her} read by John.’

The direct object in all these examples has its possessor position filled, thus a possessor raising analysis has never been considered as a derivational option. In fact, the direct object with a filled possessor position in the passive has led researchers like Pyllkkänen (2000) to reject a possessor-raising analysis of Japanese passives (Pyllkkänen 2000: 408). However, once we take the possibility of stacked possessors into consideration, the following active counterparts become available:

- (56) a. *John ga [Mary no [kyoo no sinbun]] o yabui-ta.*  
 John NOM Mary GEN today GEN newspaper ACC tear-PST  
 ‘John tore Mary’s today’s newspaper.’
- b. *John ga [Mary no [sono tegami]] o yon-da.*  
 John NOM Mary GEN that letter ACC read-PST  
 ‘John read that letter {of Mary’s/about Mary}.’
- c. *John ga [Mary no [himitu no tegami]] o yon-da.*  
 John NOM Mary GEN secret GEN letter ACC read-PST  
 ‘John read a secret letter {of Mary’s/about Mary}.’

Significantly, the passives in (55) and their proposed active counterparts in (56) are all felicitous only if *Mary* is an “owner”, “writer”, or “theme” of *sinbun* ‘newspaper’ or *tegami* ‘letter’. The three readings of *Mary-no* in the passives in (55) are straightforwardly derived under the smuggling account, as ‘*Mary-no*’ is the highest possessor in the direct object in each of the readings. Presumably, the reason (55b) has never been analyzed as a possessive passive is due to the presence of the demonstrative *sono*. However, as illustrated in (56b), demonstratives do not block stacking of genitive phrases. Therefore, now all the passives in (55) can be subsumed under possessive passives.

The following passive in (57) is another case of the possessive passive disguised as the gapless passive.

- (57) *Ken<sub>i</sub> wa [t<sub>i</sub> Naomi ni] zikka ni kaer-are-ta.*  
 Ken TOP Naomi DAT parents’.house DAT return-PASS-PST  
 ‘Ken had Naomi return to her parents’ house.’

People who accept (57) must tacitly assume a kinship relation between *Ken* and *Naomi* (i.e. *Ken*’s wife) because of the presence of the word *zikka* ‘(her) parents’ house’, which unconsciously allows them to access the possessor active source of *Ken*, i.e. [*Ken-no [(tuma-no) Naomi]*]. However, the possessor source of *Ken* is obscured because the possessed NP is a proper name. In context, however, proper names sometimes appear as a possessed NP, as exemplified below:

- (58) *Ore no Naomi ni te o dasu-na.*  
 I GEN Naomi DAT hand ACC put.out-NEG.IMP  
 ‘Don’t touch my (girl) Naomi.’

Hence, neither the filled possessor position of the direct object nor the proper name possessee can be the reason not to analyze passives like (55) and (57) as possessive passive.

This section has shown how the syntactic properties of *-(r)are* proposed in Ishizuka (2010a, 2012) interact with some general properties of Japanese and generate all sorts of passive sentences that are seemingly very different from those available in other languages.

## 5 Support for the movement derivation

In section 3.2, the availability of numeral quantifier stranding from direct passives has been given in support for the movement derivation. This section provides two additional pieces of evidence from Ishizuka (2010a, 2012: 168–173) in favor of a move-

ment derivation, using standard diagnostic tools in generative syntax – reconstruction effects and locality.

## 5.1 Reconstruction effects

The situation regarding reconstruction is quite complex. The grammatical subject does not reconstruct under the *ni*-phrase (i.e. the external argument of the main verb) in the direct passive, which has been presented as an argument against movement analyses in the literature (Kuroda 1979; Kitagawa and Kuroda 1992; Ariji 2006; Hoji 2008, among others). This is illustrated below:

- (59) *Dareka<sub>i</sub> ga daremo ni t<sub>i</sub> homer-are-ta.*  
 someone NOM everyone DAT praise-PASS-PST  
 ‘Someone was praised by everyone.’ ( $\exists > \forall$ ,  $?*\forall > \exists$ )  
 (Kitagawa and Kuroda 1992)

Importantly though, the grammatical subject in the direct passive does reconstruct under the goal and the locative, as shown in (60):

- (60) a. *Kurisumasu ni nanika<sub>i</sub> ga dono kodomo ni mo t<sub>i</sub> watas-are-ta.*  
 Christmas DAT something NOM which child DAT PART hand-PASS-PST  
 ‘Something was given to every child on Christmas.’ ( $\exists > \forall$ ,  $\forall > \exists$ )
- b. *Nanika<sub>i</sub> ga dono ie de mo (doroboo ni) t<sub>i</sub> nusum-are-ta.*  
 something NOM which house LOC PART thief DAT steal-PASS-PST  
 ‘Something was stolen at every house by {a thief/someone}.’ ( $\exists > \forall$ ,  $\forall > \exists$ )

In both (60a) and (60b), the universal quantifier in the goal and locative phrases can have wide scope over the existential quantifier in the subjects, indicating that their subjects are merged in the position lower than the goal or locative phrase and moved to the grammatical subject position. Now consider the following indirect passives:

- (61) a. *Dareka<sub>i</sub> ga dono kyoositu de mo (nanimonoka ni)*  
 somebody NOM which classroom loc PART somebody DAT  
*t<sub>i</sub> saihi o nusum-are-ta.*  
 wallet ACC steal-PASS-PST  
 ‘Somebody had his wallet stolen by somebody in every classroom.’  
 ( $\exists > \forall$ ,  $\forall > \exists$ )

- b. *Kinoo keisatukan<sub>i</sub> ga dono mati de mo hannin*  
 yesterday policeman NOM which town LOC PART criminal  
*ni t<sub>i</sub> nige-rare-ta.*  
 DAT escape-PASS-PST  
 ‘Yesterday a policeman was escaped from by a criminal in every town.’  
 ( $\exists > \forall$ ,  $\forall > \exists$ )
- c. (*Kinoo ookuno hito ga hoikuen ni sisatu ni*  
 yesterday many people NOM daycare LOC inspection DAT  
*otozureta ga,) dareka ga dono kyoositu de mo.*  
 visited but somebody NOM which classroom LOC PART  
*akatyan ni nak-are-ta.*  
 baby DAT cry-PASS-PST  
 ‘(Yesterday many people visited the daycare for an inspection, but)  
 somebody was cried over by a baby in every classroom.’ ( $\exists > \forall$ ,  $\forall > \exists$ )

Although there is some variability among speakers with respect to the ease of accessibility, the universal quantifiers in the locative phrases can have wide scope over the existential quantifiers in the subjects in (61a), (61b) and (61c). One might argue that the locative phrases in (61) are merged with  $-(r)are$  and not with the lower main verb. However, adverbial phrases cannot modify  $-(r)are$ . Should  $-(r)are$  be a verb meaning ‘be.affected’, as assumed in the literature, then it is predicted to be independently modifiable. However, this is not possible, as shown in (62). For (62), suppose that *Mary* escaped from *Ken* three times, but he was emotionally affected only twice, because he got used to her escape. (62) is incompatible with such a situation.

- (62) \**Ken ga nido Mary ni sankai nige-rare-ta.*  
 Ken NOM twice Mary DAT three.times escape-PASS-PST  
 int. ‘Ken was affected two times by Mary’s three-time escape.’

Likewise, in (63), the intended meaning is unavailable, which again shows that adverbials cannot modify  $-(r)are$ .

- (63) \**Ken ga hidoku tomodati ni sukosi keeki o tabe-rare-ta.*  
 Ken NOM heavily friend DAT a.little cake ACC eat-PASS-PST  
 int. ‘Ken was heavily affected by his friend eating a small amount of his cake.’

Assuming that the locative phrases in (61) modify the main verb embedded under  $-(r)are$ , the availability of reconstruction effects indicates that the NP in the subject

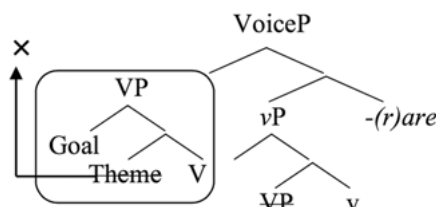


positions in (61) is originally merged in the position lower than the locative phrase (i.e. they are selected by the main verb) and moved to the subject position.

## 5.2 Minimality effect

The raising analysis predicts some difficulty in raising the “direct object” (i.e. theme) over the “indirect object” (i.e. goal) in the passive containing (pseudo-) ditransitive verbs.

(64) Theme raising over goal



The prediction is basically borne out. Ironically, the difficulty, which can be taken as a manifestation of “minimality effect”, has been generalized as “animacy effect” in the literature and has been presented as an argument in favor of the “uniform theory” (Kuroda 1979; Hoshi 1994; Matsuoka 2002, among others). Let me explicate the phenomenon with the following examples adapted from Kuroda (1979) and Hoshi (1991):

(65) a. *Fermat no teiri ga John ni syoomeis-are-ta.*  
 Fermat GEN theorem NOM John DAT prove-PASS-PST  
 lit. ‘Fermat’s theorem was proved {to/\*by} John.’

b. *Kaikai ga gityoo ni sengens-are-ta.*  
 opening NOM chairman DAT announce-PASS-PST  
 lit. ‘The opening (of the event) was announced {to/\*by} the chairman.’

Kuroda (1979) finds these passives unacceptable and attributes the unacceptability to the grammatical subject denoting abstract notions (i.e. an animacy effect). However, it is not the case that the subject NP in direct passives cannot denote abstract notions, as illustrated in (66) ((66a) is based on Kubo’s (1992) example).

(66) a. *Sono yuuki ga ookuno hito ni tatae-rare-ta.*  
 that courage NOM many people DAT praise-PASS-PST  
 lit. ‘That courage was praised by many people.’

- b. *Sono meisin wa ookuno hito ni sinzi-rare-tei-ru.*  
 that superstition TOP many people DAT believe-PASS-ASP-PRS  
 ‘That superstition has been believed by many people.’

The real problem with (65a) and (65b) is the interpretation of the dative phrases: although intended to be the “agent”, they give rise to “addressee” or “recipient” interpretations. Further complication with respect to (65b) comes from real-world knowledge, that is *gityoo* ‘chairman’ is a plausible agent, and the conflict between our real-world knowledge and the available reading makes it difficult to make sense of (65b). (Replacing *gityoo* ‘chairman’ with *sensyutati* ‘players’ in (65b) controls the real-world plausibility and allows us to see that an “addressee” reading of the dative phrase is indeed available.) The unavailability of an “agent” reading of the dative phrase is quite puzzling if *syoomesu-ru* ‘to prove’ and *sengensu-ru* ‘to announce’ are regular transitive verbs. However, *syoomesu-ru* is a pseudo-ditransitive verb, optionally taking a *ni*-marked “recipient”, as in (67a). Similarly, *sengensu-ru* is a “verb of speaking”, which optionally takes a *ni*-marked “addressee”, as shown in (67b).

- (67) a. *Bengosi ga saibankan ni hikoku no muzitu o syoomesi-ta.*  
 lawyer NOM judge DAT defendant GEN innocence ACC prove-PST  
 ‘The lawyer proved the defendant’s innocence to the judge.’  
 b. *Gityoo ga sensyutati ni kaikai o sengensi-ta.*  
 chairman NOM players DAT opening ACC announce-PST  
 ‘The chairman announced the opening (of the event) to the players.’

The unavailability of “agent” interpretations of the dative phrase is in fact a general property of (pseudo)-ditransitive passives when the “theme” occupies the subject position (Ishizuka 2010a, 2012: 64–75). Furthermore, in ditransitive passives the “theme” cannot cross over two arguments – the “goal” and the dative *by*-phrase, as shown below:

- (68) a. *\*Tomodati ga Ken ni (kinoo) Naomi ni syookais-are-ta.*  
 friend NOM Ken DAT yesterday Naomi DAT introduce-PASS-PST  
 int. ‘A friend was introduced by Ken to Naomi (yesterday).’  
 b. *\*Hikoku no muzitu ga bengosi ni (hootei de)*  
 defendant GEN innocence NOM lawyer DAT court LOC  
*saibankan ni syoomesi-s-are-ta.*  
 judge DAT prove-do-PASS-PST  
 int. ‘The defendant’s innocence was proved by a lawyer to the judge  
 (at the court).’

Significantly, unacceptability of these passives is not due to repeated uses of *ni*-phrases, since the same phenomenon occurs in passives containing a verb licensing a “source” and a “theme”. (69b) is a passive counterpart of (69a), whose grammatical subject corresponds to the “source” gap. (69c) shows that the “theme” cannot move to the subject position crossing over two arguments – the source and the dative *by*-phrase (see also Howard and Niyekawa-Howard 1976: 218, who first noted the same phenomenon):

- (69) a. *Hanako ga Naomi kara koibito o nusun-da.*  
 Hanako NOM Naomi ABL lover ACC steal-PST  
 ‘Hanako stole the boyfriend from Naomi.’
- b. *Naomi ga Hanako ni koibito o nusum-are-ta.*  
 Naomi NOM Hanako DAT lover ACC steal-PASS-PST  
 ‘Naomi had her boyfriend stolen by Hanako.’
- c. \**Koibito ga Hanako ni Naomi kara nusum-are-ta.*  
 lover NOM Hanako DAT Naomi ABL steal-PASS-PST  
 lit. ‘The boyfriend was stolen from Naomi by Hanako.’

In short, it is impossible to raise the “theme” over “goal” or “source” when the dative *by*-phrase is present. This kind of minimality effect is exactly what a raising analysis predicts.

In this section, I have introduced two of the arguments Ishizuka (2012) presented in favor of a movement analysis of direct and indirect passives. Further, the discussions so far have demonstrated that some well-known puzzles or inconsistent behavior of the passive now directly follow from the movement analysis of the passive.

## 6 Conclusions and remaining issues

This chapter has reviewed the traditional analyses of Japanese passives and a new unified raising analysis proposed by Ishizuka (2010a, 2012). The latter analysis assumes that *-(r)are* has an edge feature that attracts a VP to its specifier, which brings the internal argument closer to the subject position than the logical subject of the main verb (cf. Collins 2005). Consistent with the idea of modularity of grammar, the very rich phenomenon of Japanese passives is brought about by the properties of *-(r)are* interacting with some general properties of Japanese (i.e. the subject requirement in the matrix clause, lack of expletives, disappearance of Case-markers under movement, availability of possessor raising). Ishizuka’s (2010a, 2012) proposal differs from previous approaches in that the source of the grammatical subject is not

restricted to the direct object but encompasses the genitive and various obliques including the ablative and the dative.

There is a large body of literature on Japanese passives, and I was unable to cover all the instances of indirect passives previously discussed. However, if all the cases reviewed in this chapter are indeed passives involving movement, it should not be very difficult to extend the NP-movement analysis to other cases. Needless to say, many more properties need to be reexamined and accounted for, especially the necessity of supportive context and individual variability in terms of accepting (34)-type gapless passives. Further, the literature reviewed in this chapter introduces new generalizations – (i) in ditransitive passives, the “theme” cannot be raised over the “goal” or “source” when the dative *by*-phrase is overt; and (ii) the interpretation of the dative phrase in (pseudo-)ditransitive passives is generally interpreted as “goal” but not as “agent”. The question of how to derive these properties remains to be accounted for. We have also observed that verbs like *nak-u* ‘cry’ indeed impose animacy constraints on the grammatical subject of the passive. Understanding the fine structure of these verbs licensing the dative “cause” is needed to account for the attested animacy effect with the passive.

Nevertheless, identifying a gap corresponding to the grammatical subject in indirect passives is an essential step in order to analyze *-(r)are* as a true passive morpheme that never introduces an argument, which is consistent with what is considered a universal property of the passive voice. Furthermore, the new raising analysis brings the passive voice in Japanese much closer to those in Western languages, questioning the adequacy of the current bifurcated view.

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## 12 Case Marking

### 1 Introduction

The main objective of this chapter is to show how nominals are case-marked in Japanese. Case marking is one kind of referencing apparatus used to specify the grammatical roles of arguments, which are largely determined by the properties of the predicates. Needless to say, there are a number of conceivable devices that could be utilized to specify grammatical relations. Some commonly-used coding mechanisms, which make the efficient retrieval of the grammatical relations of arguments possible, include case marking (grammatical marking appearing with nominals, which could be realized as part of inflection, an adposition, or a particle), agreement (cross-referencing system marked on predicates), and word order. Among these options, Japanese makes use of (postnominal) case marking.

In point of fact, in Japanese, morphological case marking is the sole reliable means of signaling the grammatical relations of arguments, because the language has no person/number/gender agreement that appears on verbs (except an optional honorific marking that can be treated as a kind of agreement), and word order cannot be used to identify the grammatical relations (mainly due to the presence of a reordering operation often called ‘scrambling’). Even though the grammatical functions of arguments are coded morphologically by means of postnominal case markers in Japanese, the relationship between the two is not always straightforward. Thus, it is important to have a proper understanding of how case marking (on nominals) is regulated in Japanese grammar.

Japanese has several different kinds of particles, including case, adverbial, and sentence-final particles, which can be distinguished according to their function and distribution. Among them, case particles play an important role in designating the grammatical relations of arguments. In Japanese generative grammar, it is commonly assumed that case markers are divided into two groups, more or less reflecting the argument/adjunct distinction. The first group of postnominal case markers is called ‘case marker’ or ‘syntactic case marker’, and the other ‘postposition’ or ‘semantic case marker’. In traditional Japanese grammar, by contrast, these two kinds of particles are generally not distinguished: both types of particles are assigned the label *kaku joshi* (case particles), regardless of whether they fall into the class of syntactic case markers or semantic case markers.

Despite the fact that case marking plays a pivotal role in encoding the grammatical relations of arguments, Japanese has only a handful of simple postnominal particles. While syntactic case markers mark arguments bearing core grammatical relations like subject, direct object, and indirect object, semantic case markers encode

fixed semantic relations, such as instrument, direction, location/place, time, material, and manner, as shown in Table 1.<sup>1</sup>

**Table 1:** Types of Case Markers

Syntactic case marker	<i>ga</i> (NOM), <i>o</i> (ACC), <i>ni</i> (DAT), <i>no</i> (GEN)	
Semantic case marker	<i>de</i> (INS)/(PLC)	instrument, means, reason, material, manner, location, etc.
	<i>ni</i> (LOC)	location/goal, time
	<i>kara</i> (ABL)	source
	<i>e</i> (DIR)	destination, direction
	<i>made</i> (GOAL)	goal
	<i>to</i> (COM)/(QUOT)	comitative, quote

The basic case-marking patterns of arguments are determined by the semantic properties of predicates. While nominals with syntactic case markers (nominative, accusative, dative) are often amenable to syntactic operations affecting their grammatical relations (such as passivization), nominals with semantic case markers (such as *kara* ‘from’, *made* ‘up to’, and the like) are not. These properties are correlated with the argument/adjunct distinction, but it is also true that the distinction of argument versus adjunct cannot be determined solely on the basis of particular morphological forms. This is largely due to the fact that most, if not all, basic markers are polysemous or homonymous, and have multiple functions. One and the same morphological marker can often mark both arguments and adjuncts; e.g. *ni* marking can be used in a number of different ways, since it can serve as a dative, locative, directional, or goal marker.

This chapter provides a bird’s-eye view of how nominals are case-marked in various clauses. The discussion proceeds as follows. Section 2 discusses the case-marking patterns in basic clauses, including intransitive, transitive, and ditransitive clauses. Section 3 illustrates some case-marking alternations made available by grammatical operations. It is suggested in section 4 that the nominative-case constraint is operative when tense participates in Case valuation. A conclusion, together with further research perspectives, is presented in section 5.

<sup>1</sup> Besides simple postnominal markers, Japanese has a number of complex postpositions resulting from grammaticalization of combined nominal markers and verbs or combined nouns and nominal markers (Kishimoto, Kageyama and Sasaki 2015). The first class of complex postpositions include *nitaisite* ‘toward, against’ (< *ni* + *taisi-te* ‘LOC + face-GER’), *nitotte* ‘for’ (< *ni* + *tot-te* ‘LOC + take-GER’), *nisotte* ‘along’ (< *ni* + *sot-te* ‘LOC + parallel-GER’), and *nikansite* ‘concerning’ (< *ni* + *kansi-te* ‘LOC + concern-GER’). The second class includes *hooni* ‘in the direction of’ (< *hoo* + *ni* ‘direction + LOC’) and *tameni* ‘for the benefit of’ (< *tame* + *ni* ‘benefit + for’).

## 2 Case Marking in Basic Clauses

In simple clauses, the case marking patterns of nominals are largely determined by the type of predicate. In this section, I will provide an overview of how verbal arguments are marked in basic clauses.

### 2.1 Transitive and Intransitive Clauses

Let us begin by illustrating the basic case-marking patterns observed in transitive and intransitive clauses. Japanese is a nominative-accusative language. Thus, it is a general rule that the subject of a transitive verb is treated in the same way as the subject of an intransitive verb, and differently from the direct object of a transitive verb in their case marking, as seen in (1).

- (1) a. *Ken ga kono kodomo o sikat-ta.*  
       Ken NOM this child ACC scold-PST  
       ‘Ken scolded this child.’
- b. *Ken ga hasit-ta.*  
       Ken NOM run-PST  
       ‘Ken ran.’

In a transitive clause like (1a), the subject is marked with nominative case, and an object with accusative case, displaying the case-marking pattern <NOM, ACC>. In (1b), the sole argument (i.e. the subject) of an intransitive verb is marked with nominative case, taking the case pattern <NOM>.<sup>2</sup>

While <NOM, ACC> is the unmarked case-marking pattern for transitive verbs, there are cases where transitive verbs take other case-marking patterns. In particular, stative predicates allow a number of different case-marking patterns (see e.g. Kuno 1973). Potential verbs, which carry stative meanings, can be productively formed via suffixing non-stative verbs with the potential *-e* or *-(r)are*. As seen in (3), a derived

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<sup>2</sup> When a *fuku joshi* (an adverbial particle) is added to an argument, its case marking often does not appear on the surface, but there are cases where a case marker can be overtly manifested even in the presence of an adverbial particle, as in (i).

(i) *Ken ga sono hon (o) mo yon-da.*  
       Ken NOM that book ACC also read-PST  
       ‘Ken also read that book.’

This shows that arguments are case-marked even when a case marker is suppressed by virtue of an adverbial particle.

stative predicate like *uta-e-ru* ‘can sing’ allows its subject to bear either dative or nominative case.

- (2) a. *Ken ga sono uta {o/ga} uta-e-ru.*  
 Ken NOM that song {ACC/NOM} sing-POTEN-PRS  
 ‘Ken can sing that song.’
- b. *Ken ni sono uta {ga/\*o} uta-e-ru.*  
 Ken DAT that song {NOM/\*ACC} sing-POTEN-PRS  
 ‘Ken can sing that song.’

When the subject has nominative case, as in (2a), the object can be marked with either accusative or nominative case. When the subject is marked with dative case, as in (2b), the object can only be marked with nominative case. The impossibility of accusative case marking on the object in (2b) is due to the so-called ‘nominative-case’ constraint, i.e. the requirement that a finite clause must have at least one nominative argument (Shibatani 1978).<sup>3</sup> Note that the potential verb *uta-e-ru* ‘can sing’ in (2) allows accusative marking on its object, which is possible with non-stative transitive verbs, because the base verb is non-stative and carries an intentional meaning (Makino 1975–76). A simple verb like *wakaru* ‘understand’ can also take the same case-marking patterns as derived potential predicates, owing to the fact that the verb can be either stative or non-stative (Sugioka 1986).

In (1a) and (2a, b), the arguments appearing in the initial position (in unmarked word order) are construed as subjects, regardless of whether they are marked with dative or nominative case. This can be confirmed by the two major subject diagnostics of reflexivization and subject honorification. First, the examples in (3) show that despite a difference in case-marking pattern, the reflexive *zibun* ‘self’ can take the initial argument as its antecedent (Shibatani 1978; Kishimoto 2004).

- (3) a. *Ken<sub>i</sub> ga kodomo o zibun<sub>i</sub> no heya de sikat-ta.*  
 Ken NOM child ACC self GEN room PLC scold-PST  
 ‘Ken scolded the child in his own room.’
- b. *Mari<sub>i</sub> ni zibun<sub>i</sub> no uta ga uta-e-ta.*  
 Mari DAT self GEN song NOM sing-POTEN-PST  
 ‘Mari could sing her own song.’
- c. *Mari<sub>i</sub> ga zibun<sub>i</sub> no uta {ga/o} uta-e-ta.*  
 Mari NOM self GEN song {NOM/ACC} sing-POTEN-PST  
 ‘Mari could sing her own song.’

<sup>3</sup> Even though the nominative-case constraint applies to many types of clauses, there are certain contexts where it does not apply (Kuroda 1978; Shibatani 1978; see also section 4).

The examples in (4) show that the initial arguments can be targeted for subject honorification, whether they are marked with nominative or dative case (Harada 1976a; Hasegawa 2006).

- (4) a. *Sensei ga kodomo o o-sikari-ni-nat-ta.*  
 teacher NOM child ACC HON-scold-DAT-become-PST  
 ‘The teacher scolded the child.’
- b. *Sensei ni sono uta ga o-utai-ni-nar-e-ru.*  
 teacher DAT that song NOM HON-sing-DAT-become-POTEN-PRS  
 ‘The teacher can sing that song.’
- c. *Sensei ga sono uta {ga/o} o-utai-ni-nar-e-ru.*  
 teacher NOM that song {NOM/ACC} HON-sing-DAT-become-POTEN-PRS  
 ‘The teacher can sing that song.’

Since both subject honorification and reflexivization have subject orientation, it can be stated that the initial nominative and dative arguments serve as subjects.<sup>4</sup>

Intransitive potential predicates, unlike transitive potential predicates, do not display varying case-marking patterns. In the potential class of intransitive verbs (with no objects or path arguments), the subject must appear in the nominative case, while excluding the dative case.

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<sup>4</sup> In generative grammar, it is generally assumed that subjects are merged with vP, where they receive their theta roles and are raised to Spec-TP if T has an EPP requirement. If so, there is the possibility that subject diagnostics pick out subject arguments located in either Spec-TP or Spec-vP. Kishimoto (2010, 2012) shows that obliquely-marked subjects reside in Spec-vP without raising to Spec-TP, but can be the target of reflexivization and subject honorification. Furthermore, the following examples also suggest that they can target subjects that do not reside in Spec-TP.

- (i) a. *Sensei ga [Hanako o zibun no heya de hatarak]-ase-ta.*  
 teacher NOM Hanako ACC self GEN room at work-CAUS-PST  
 (lit.) ‘The teacher made Hanako work at self’s room.’
- b. *Watasi wa [Abe-sensei o totemo o-kinodoku] omo-u.*  
 1.SG TOP Abe-teacher ACC very HON-pitiful think-PRS  
 ‘I feel very sorry about Prof. Abe.’

In the causative construction (ia), the embedded clause does not include tense (see Saito 2009), but the causee *Hanako* (as well as the causer *sensei* ‘the teacher’) can be the antecedent of *zibun*. In (ib), the embedded subject is targeted for subject honorification, even if it appears in the small clause, which does not comprise a tense element (Takezawa 1987). Given that subject honorification and reflexivization can pick out subject arguments residing in clauses which lack tense, it is reasonable to assume that they are operations targeting a subject argument in Spec-vP (or its copy left there by virtue of movement) (see Kishimoto 2010, 2011; Saito 2009).

- (5) *Kono hito {ga/\*ni} hatarak-e-ru.*  
 this person {NOM/\*DAT} work-POTEN-PRS  
 ‘This person can work.’

The obligatory nominative marking on the subject of the intransitive potential verb may be attributed to the nominative-case constraint. The subject must be marked with nominative case in (5); otherwise (5) is excluded as ungrammatical on the grounds that no nominative argument appears in the clause.

Note that the transitive frame of <NOM, ACC> is superficially associated with intransitive verbs of locomotion such as *noboru* ‘climb’, *aruku* ‘walk’, and *korogaru* ‘roll’, where the accusative argument indicates a traversal path.

- (6) a. *Ken ga yama-miti o nobot-ta.*  
 Ken NOM mountain-path ACC climb-PST  
 ‘Ken climbed the mountain path.’  
 b. *Ken ni yama-miti ga nobor-e-ta.*  
 Ken DAT mountain-path NOM climb-POTEN-PST  
 ‘Ken was able to climb the mountain path.’

It is controversial whether the traversal path in the accusative case is an argument or an adjunct (Haig 1981). Note, however, that when an intransitive predicate taking an accusative path argument is turned into a potential predicate, the case-marking pattern <DAT, NOM>, where the subject is marked with dative case, is made available if the path argument is realized with nominative case.

Besides potential predicates derived from non-stative verbs with the suffixation of the potential affix, there is a set of simple stative predicates taking dative subjects and nominative objects, which often allow the initial dative case to be changed to nominative case, as in (7).

- (7) *Ken {ni/ga} sono hon ga hituyoo-da.*  
 Ken {DAT/NOM} that book NOM necessary-PRS  
 ‘Ken needs that book.’

The class of dative-subject predicates that allow nominative case as an alternative subject marker for their dative subjects includes predicates expressing perception (e.g. *mieru* ‘see’), necessity (e.g. *hituyoo-da* ‘necessary’), potentiality (e.g. *kanoo-da* ‘possible’), existence (e.g. *aru* ‘be (inanimate)’, *iru* ‘be (animate)’), and the like (see Shibatani 2001). These predicates, which carry only stative meanings, cannot take the case-marking pattern of <NOM, ACC>.

Up to this point, I have illustrated the basic case-marking patterns of transitive and intransitive clauses. The question to be raised here is how the case marking patterns for ordinary transitive verbs as well as variable case markings for transitive potential verbs are licensed. In the following discussion, I will discuss how case marking is licensed syntactically from the theoretical perspective of implementing Case valuation.

To begin with, it is commonly assumed in generative grammar that structural Case is necessary for a DP, i.e. an argument without a postposition, to occur in a clause.<sup>5</sup> As often discussed, T can be assumed to be the Case licenser of a nominative argument, with the transitive light verb *v* being the licenser of accusative Case (see e.g. Pesetsky and Torrego 2001; Chomsky 2000, 2001). Given the premise that T (carrying the formal feature [NOM]) values an initially unvalued Case feature as nominative, and *v* (carrying [ACC]) as accusative, it is easy to see that the transitive case-marking pattern is licensed when the Case features on arguments are valued, as in (8).

$$\begin{array}{ccccccc}
 (8) & [[\text{SBJ}]_{[\text{Case: } \rightarrow [\text{Case: NOM}]}] & [\text{OBJ}]_{[\text{Case: } \rightarrow [\text{Case: ACC}]}] & \text{V} & \text{v}_{[\text{ACC}]} & \text{T}_{[\text{NOM}]}] \\
 & \downarrow & & \downarrow & \downarrow & \downarrow \\
 & \phi & & \phi & \phi & \phi
 \end{array}$$

In (8), *v* values the Case feature on the object as accusative, and T values the Case feature on the subject as nominative under c-command. The derivation is legitimate, since all the grammatical features can be deleted after Case valuation, i.e. no grammatical features remain that make the derivation crash. This is the regular option of Case valuation for transitive predicates, and thus, clauses with transitive predicates in unmarked cases display a <NOM, ACC> case-marking pattern.

With transitive stative predicates, *v* sometimes does not value a Case feature on a nominal and thus, different case-marking patterns emerge. In cases where transitive stative predicates are derived by the addition of the potential affix, it can be assumed that the Case feature [ACC] on the transitive *v* is absorbed by the affix optionally. This would be a reasonable assumption, given that the potential affix has a morphological affinity with the passive marker, and induces a case-marking change similar to one effected in passive constructions (see e.g. Shibatani 1985; Jacobsen 1992; Hasegawa 1988). On the other hand, with simple stative verbs like

<sup>5</sup> There are many different proposals on the Case-licensing system. In the early days of Japanese generative grammar, case marking was assigned to arguments via transformational rules. In the Government and Binding Theory, it was generally assumed that structural Case is assigned to arguments under certain syntactic configurations: T assigns nominative Case to an argument appearing in Spec-TP, V assigns accusative Case to its complement, etc. (Chomsky 1981, 1986). In the Minimalist Program (Chomsky 1995, 2000, 2001, 2004), Case valuation rather than Case assignment is used as a tool for Case-licensing arguments.

*wakaru* ‘understand’, which take varying case-marking patterns, their light *v* carries the Case feature [ACC] optionally. (With adjectival predicates like *hituyoo-da* ‘necessary’, their associated light predicate does not carry [ACC], and hence they do not take a <NOM, ACC> case-marking pattern).

When transitive *v* associated with potential predicates carries [ACC], the case-marking pattern <NOM, ACC> is derived by invoking the regular transitive Case-valuation process depicted in (8). On the other hand, when transitive *v* does not carry [ACC], the following derivations can be posited, given that *T* carrying either [DAT, NOM] or [NOM] values the Case features on arguments (see e.g. Takezawa 1987, 1998; Koizumi 1994, 2008; see also section 4).

- (9) a.  $[[\text{SBJ}_{[\text{Case: } ] \rightarrow [\text{Case: DAT}]} [\text{OBJ}_{[\text{Case: } ] \rightarrow [\text{Case: NOM}]} \text{V}] \text{v}] \text{T}_{[\text{DAT, NOM}]}$   
 $\downarrow \qquad \qquad \qquad \downarrow \qquad \qquad \downarrow \quad \downarrow$   
 $\phi \qquad \qquad \qquad \phi \qquad \qquad \phi \quad \phi$
- b.  $[[\text{SBJ}_{[\text{Case: } ] \rightarrow [\text{Case: NOM}]} [\text{OBJ}_{[\text{Case: } ] \rightarrow [\text{Case: NOM}]} \text{V}] \text{v}] \text{T}_{[\text{NOM}]}$   
 $\downarrow \qquad \qquad \qquad \downarrow \qquad \qquad \downarrow$   
 $\phi \qquad \qquad \qquad \phi \qquad \qquad \phi$

In (9a), the Case feature on the subject is valued as dative, and the Case feature on the object is valued as nominative, which gives rise to the <DAT, NOM> case-marking pattern. If the subject is valued as nominative rather than dative, as in (9b), the sentence has a <NOM, NOM> case-marking pattern. The derivation in (9b) involves a multiple Agree operation, in which  $\text{T}_{[\text{NOM}]}$  values more than one Case feature (Hiraiwa 2000b, 2005).

When an argument carries structural Case feature, what head is used for Case valuation is determined according to the syntactic context in which the argument appears. Thus, the kind of syntactic case marker with which the argument is associated – i.e. its morphological case marking – could differ even when its semantic relation does not vary. This means that in the case of an argument with structural Case, there is no strict correlation obtained between the semantic role that it assumes and the morphological case marking. By contrast, an argument bearing a semantic case marker (e.g. *kara* ‘from’, *e* ‘to’, *de* ‘at’, or *to* ‘with’) has a fixed semantic relation, because the semantic case marker serves as a postposition which determines both semantic role and case relation of the argument. Specifically, when a nominal occurs with a postposition, forming a PP as a whole, the Case feature on the nominal is valued by the postposition (but not an independent element outside). At the same time, the postposition assigns a theta role to the nominal. Accordingly, when a postpositional nominal (PP) is involved, there is a one-to-one correspondence between the kind of semantic case marker appearing on the argument and the thematic role that it assumes.



The fact that the case-marking patterns of stative predicates taking two arguments, i.e. experiencer and theme, differ from those of non-stative transitive predicates leads to a debate over whether the two-argument stative predicates are construed as intransitive predicates with no object or transitive predicates with an object. In traditional Japanese grammar, nominative-marked arguments are often analyzed uniformly as subjects (Hashimoto 1969; Onoe 1997–1998; and others), and under this analysis, there is no possibility that they are categorized as transitive verbs.<sup>6</sup> There is also a view that considers the second nominative theme argument of a two-argument stative predicate to have a grammatical relation different from subject or object (Tokieda 1950). In Japanese generative grammar, on the other hand, the possibility of marking objects with nominative case is widely acknowledged, and the dyadic stative verbs are often treated as transitive predicates with nominative objects (Kuno 1973; Takezawa 1987, 1998; Kuno and Johnson 2005; Koizumi 2008; and others).

Under the view espoused in this chapter, nominative Case is licensed by T, but it is worth noting at this point that in the literature on Japanese, there are two major claims about where nominative marking on objects comes from: On the one hand, Kuno (1973, 1978) and Tada (1992) claim that the stativity of predicates determines the choice of case marking on the objects; on the other hand, Takezawa (1987, 1998), Koizumi (1994, 1995, 1998), Kishimoto (2001b), and Takahashi (2010) take T (or a functional category associated with it) as responsible for nominative marking (see also Koizumi 2008). (For some other proposals on the structures and the scope properties of potential predicates, as well as the licensing of their varying case-marking patterns, see e.g. Sugioka 1986; Sano 1985; Ura 1999; Takano 2003; Bobaljik and Wurmbrand 2007.)

## 2.2 Other Two-Place Predicates

In Japanese, there are a number of two-place predicates displaying non-typical case-marking patterns; some predicates show marked behavior belonging to special classes, and others behave differently from regular ones, by taking arguments with semantic case markers. In this section, I will briefly discuss some examples.

First, transitive verbs most typically take a <NOM, ACC> case-marking pattern, but some transitive predicates mark their object with dative rather than accusative case, giving rise to a <NOM, DAT> case pattern, as illustrated in (10).

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<sup>6</sup> Needless to say, there are some other ways of characterizing subjects that have been proposed by traditional Japanese grammarians (see e.g. Matsushita 1928; Yamada 1936; Kitahara 1981). It is also worth noting that some Japanese grammarians (e.g. M. Watanabe 1971) do not assign special status to subjects, and others (e.g. Mikami 1953) deny the relevance of the notion of subject to Japanese grammar.

- (10) *Sono kodomo ga hahaoya ni ni-te i-ru.*  
 that child NOM mother DAT resemble-GER be-PRS  
 ‘That child resembles his mother.’

The case frame <NOM, DAT> is used for symmetric verbs like *niru* ‘resemble’ and *au* ‘meet’, and also verbs denoting abstract states, such as *naru* ‘become’ and *ataru* ‘correspond to’.<sup>7</sup>

Secondly, while non-verbal predicates normally do not allow accusative marking on their object, there is a special group of stative adjective predicates, such as *suki-da* ‘like’, which can assign accusative case, as well as nominative case, to their object.

- (11) *Mari ga kare {ga/o} suki-da.*  
 Mari NOM he {NOM/ACC} fond-PRS  
 ‘Mari likes him.’

The class of predicates marking the object with accusative as well as nominative case includes predicates of (dis)liking (e.g. *suki-da* ‘be fond of’, *kirai-da* ‘hate’) and wanting (e.g. *hosii* ‘want’). (Note that these predicates do not allow their subjects to be marked with dative case.)

Thirdly, adjectival predicates like *sinsetu-da* ‘kind’, *yasasii* ‘gentle’, *isogasai* ‘busy’, etc., take a dative complement, showing a <NOM, DAT> case pattern, which differs from the <DAT, NOM> case pattern available for predicates taking a dative subject.

- (12) *Ken ga kodomo ni amakat-ta.*  
 Ken NOM child DAT indulgent-PST  
 ‘Ken was indulgent to children.’

In (12), *amai* ‘indulgent’ does not take a dative subject. Rather, with this predicate, the nominative argument serves as a subject, and the dative argument a complement. This fact can be confirmed by applying the subject tests of reflexivization and subject honorification, as in (13).

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7 The *ni*-marked arguments in this class of verbs cannot be promoted to subjects by direct passivization.

- (i) *\*Hahaoya ga sono ko ni ni-rare-te i-ru.*  
 mother NOM that child DAT resemble-PASS-GER be-PRS  
 ‘His mother is resembled by that child.’

Additionally, in the case of *naru* ‘become’, it might be possible to view the verb as taking a clausal complement. Under this view, *ni*, which appears in front of *naru*, can be analyzed as a preverbal form of copula.

- (13) a. *Ken<sub>i</sub> ga zibun<sub>i</sub> no kodomo ni amakat-ta.*  
 Ken NOM self GEN child DAT indulgent-PST  
 ‘Ken was indulgent to his own children.’
- b. *Kimura-sensei ga gakusei ni kanari amaku-te irassyar-u.*  
 Kimura-teacher NOM student DAT fairly indulgent-GER be.HON-PRS  
 ‘Professor Kimura is fairly indulgent to his students.’

In (13), the nominative argument can antecede the reflexive *zibun*, and subject honorification can target this argument. The data regarding reflexivization and subject honorification show that the nominative experiencer serves as the subject of an adjective predicate like *amai* ‘indulgent’.

Fourthly, motion predicates often take locative arguments accompanying postpositions. Predicates like *iku* ‘go’, *suwaru* ‘sit’, and *saru* ‘leave’ require two arguments: the theme (or the agent) marked with the nominative *ga*, and its location, which is marked either with the locative *ni* (in the case of stative verbs and verbs of arrival) or with the ablative *kara* (in the case of verbs of departure).

- (14) a. *Nimotu ga daigaku ni tui-ta.*  
 luggage NOM university LOC arrive-PST  
 ‘The luggage arrived at the university.’
- b. *Tomodati ga mati {kara/o} sat-ta.*  
 friend NOM town {ABL/ACC} leave-PST  
 ‘My friend left (from) the town.’

The verb *saru* ‘leave’ allows its source argument (specifying the point of departure) to be marked with accusative case, instead of the ablative *kara*. This type of case alternation is not allowed for the verb of arrival *tuku* ‘arrive’, which takes a goal argument.

While the locative *ni* marks a location or a goal selected by the verb, the postposition *de* marks an adjunct location regardless of the type of verb.

- (15) *Seito ga kyoositu de ason-da.*  
 pupil NOM classroom PLC play-PST  
 ‘The pupils played in the classroom.’

The locative marker *de* designates the place where the action or event expressed by the predicate takes place.

Finally, predicates like *hanasu* ‘speak’, *au* ‘meet’, and *niru* ‘resemble’ allow their dative complement to be marked with the comitative *to* as well.

- (16) *Ken ga Eri {ni/to} hanasi-ta.*  
 Ken NOM Eri {DAT/COM} talk-PST  
 ‘Ken talked {to/with} Eri.’

The dative/comitative variation on the second argument is not regarded as signaling a case-marking alternation, since the two variants in (16) carry distinct meanings: the *ni*-variant implies that only Ken talked, but the *to*-variant denotes that Ken and Eri talked with each other.

## 2.3 Ditransitive Clauses

Let us now move on to the discussion of the case-marking patterns of ditransitive predicates. With ditransitive verbs denoting transfer of possession (e.g. *ataeru* ‘give’, *miseru* ‘show’, *tugeru* ‘tell’, *osieru* ‘teach’), as well as the dressing verb *kiseru* ‘dress’, the case frame <NOM, DAT, ACC> is used.

- (17) *Oya ga kodomo ni hon o atae-ta.*  
 parent NOM child DAT book ACC give-PST  
 ‘The parents gave the child the book.’

The dative argument is identified as a recipient (i.e. an animate goal) and functions as an indirect object syntactically, because it can be promoted to subject by direct passivization, in just the same way as a direct object, as seen in (18).

- (18) a. *Kodomo ga hon o atae-rare-ta.*  
 child NOM book ACC give-PASS-PST  
 ‘The child was given a book.’  
 b. *Hon ga kodomo ni atae-rare-ta.*  
 book NOM book DAT give-PASS-PST  
 ‘A book was given to the child.’

Given that the *ni*-marked argument (i.e. the indirect object) of *ataeru* ‘give’ in (17) may be affected by a grammatical operation, the particle *ni* here is construed as a syntactic case maker, which represents dative case.<sup>8</sup>

Owing to the fact that *ni* can be either a dative or a locative case marker, the ditransitive case frame superficially looks identical to the case frame <NOM, LOC, ACC> for verbs designating a change of location (e.g. *hakobu* ‘carry’, *okuru* ‘send’, *oku* ‘put’).

<sup>8</sup> Under the standard split vP analysis, it can be assumed that *v* values the Case feature on the indirect object of a ditransitive verb as dative, since the indirect object is included in the lower VP projection (Chomsky 1995).



When transfer of possession is expressed by a ditransitive predicate, a possessor argument realized as an indirect object could be either a source or a goal thematically but can invariably be marked with dative case. This fact suggests that the dative case does not specify a fixed grammatical relation. The ablative/dative alternation is not available for verbs of physical removal like *toru* ‘take’, *hazusu* ‘remove’, and *nusumu* ‘steal’, which mark the source argument exclusively with the ablative *kara*.

In the literature, there is controversy over the hierarchical position of the two internal arguments of ditransitive predicates. For the debates on the structures of ditransitive predicates, see Hoji (1985), Kishimoto (2001c), Miyagawa (1997), Takano (1998, 2008), and Matsuoka (2003), among others.

## 2.4 Alternation of Subject Marking

In Japanese, subjects are most typically marked with nominative or dative case, but other types of marking are sometime allowed. The examples in (23) illustrate that nominative case on subjects can be replaced with a semantic case marker under certain condition (Nitta 1997; Inoue 1998; Kishimoto 2005, 2010).

- (23) a. *Watasi {ga/kara} sono koto o hanasi-ta.*  
 1.SG {NOM/ABL} that fact ACC speak-PST  
 ‘I talked about that matter.’
- b. *Kodomo-tati {ga/de} kyoositu ni atumat-ta.*  
 child-PL {NOM/INS} classroom LOC gather-PST  
 ‘The children gathered in the classroom.’

In (23a), the subject may be assigned ablative *kara* ‘from’, in lieu of nominative *ga*, since it is thematically conceived as a source, as well as an agent. As seen in (23b), the instrumental (or possibly, the locative) *de* may be substituted for nominative *ga* on the agent subject when it refers to a group of people (Kishimoto 2005; Takubo 2010). The initial oblique arguments in (23) count as subjects syntactically regardless of whether they are marked with *kara* or *de*, as can be seen from the fact that both *kara*- and *de*-marked arguments can be targeted for subject honorification, and reflexive *zibun* ‘self’ can take them as its antecedent.<sup>9</sup>

- (24) a. *Sensei kara sono koto o o-hanasi-ni-nar-u.*  
 teacher ABL that fact ACC HON-speak-DAT-become-PRS  
 ‘The teacher will talk about that matter.’

<sup>9</sup> There seems to be idiolectal variation in acceptability in regard to subject honorification when subjects receive oblique marking.

- b. *Sensei-tati de o-atumari-ni-nat-ta.*  
 teacher-PL INS HON-gather-DAT-become-PST  
 ‘The teachers got together.’

- (25) a. *Ken<sub>i</sub> kara wa zibun<sub>i</sub> no koto o hanasa-nakat-ta.*  
 Ken ABL TOP self GEN fact ACC speak-NEG-PST  
 ‘Ken did not talk about his own matter.’

- b. *Kodomo-tati<sub>i</sub> de zibun<sub>i</sub> no nimotu o hakon-da.*  
 child-PL INS self GEN luggage ACC carry-PST  
 ‘The children carried their own luggage.’

In the light of the data (24) and (25), it is fair to say that the initial obliquely-marked arguments in (23) serve as subjects syntactically, i.e. they function as subjects because they are base-generated in Spec-vP, where the theta role of agent is assigned.

The facts of subject honorification as well as reflexivization suggest that arguments can serve as subjects if they are assigned their theta role in Spec-vP regardless of whether they have the status of DP or PP. This suggests that the grammatical relations of arguments are not affected by their syntactic status, i.e. the distinction between DP and PP. This fact can further be verified by appeal to non-subject honorification. To take just one example, a ditransitive verb like *morau* ‘get’ (and its non-subject honorific form *itadaku* ‘get’) marks its indirect object with either dative *ni* or ablative *kara*, and non-subject honorification targeting the indirect object argument is legitimate regardless of the choice of nominal marking, as in (26).

- (26) *Ken ga Ito-sensei {ni/kara} hon o itadai-ta.*  
 Ken NOM Ito-teacher {DAT/ABL} book ACC get.HON-PST  
 ‘Ken got a book from Prof. Ito.’

As noted by Harada (1976a), the indirect object of a ditransitive verb can be targeted for non-subject honorification. The acceptability of (26) illustrates that an argument located in the indirect object position qualifies as a target of non-subject honorification regardless of whether it is construed as DP or PP.

Incidentally, *de*-marked nominals can be used as adjuncts, in which case they are not constrained by the semantic condition that applies to *de*-marked subjects (i.e. arguments), as in (27a).

- (27) a. *Ken<sub>i</sub> ga zibun<sub>i</sub> de hon o kai-ta.*  
 Ken NOM self PLC book ACC write-PST  
 ‘Ken wrote books by himself.’

- b. {*Gakusei-tati de*/\**Ken de*} *hon o kai-ta*.  
 {student-PL INS/Ken INS} book ACC write-PST  
 ‘{The students/Ken} wrote books.’

In (27a), *Ken* is the thematic subject of the verb *kaku* ‘write’ and *zibun de* ‘by one-self’, which is used as an adjunct modifier, is coreferential with the subject. (27a) is acceptable, despite the fact that *zibun de* refers to a single person Ken. By contrast, when a *de*-marked phrase counts as the subject rather than an adjunct, it needs to refer to a group of people semantically.<sup>10</sup> Thus, in (27b), *gakusei-tati de* [student-PL INS], which refers to a group of students, qualifies as the subject of the verb *kaku* ‘write’, but *Ken de* [Ken INS] does not.

## 2.5 Locative alternation

Japanese has other types of case alternation applying to basic clauses. For instance, locative alternation can be instantiated by a number of verbs such as *mitasu* ‘fill’, *nuru* ‘paint’, *tirakasu* ‘scatter’, and *kazaru* ‘decorate’, which express the meanings of ‘filling’ or ‘spreading’, as seen in (28).

- (28) a. *Ken ga kabe ni akai penki o nut-ta*.  
 Ken NOM wall LOC red paint ACC paint-PST  
 ‘Ken painted red paint on the wall.’  
 b. *Ken ga akai penki de kabe o nut-ta*.  
 Ken NOM red paint INS wall ACC paint-PST  
 ‘Ken painted the wall with red paint.’

In one variant, i.e. the material-object variant, the theme receives accusative marking while the location is marked with locative *ni*. In the other variant, i.e. the location-object variant, the location is marked with accusative, and the theme with instrumental *de*. Verbs with the meaning of ‘removal’ (e.g. *katazukeru* ‘clear’, *nomi-hosu* ‘drink up’) display different case-marking patterns.

- (29) a. *Ken ga teeburu no ue kara syokki o katazuke-ta*.  
 Ken NOM table GEN TOP ABL dish ACC clear-PST  
 ‘Ken cleared the dishes from the table.’

<sup>10</sup> Example (27b) is ruled out when the subject refers to Ken, owing to a semantic constraint. Thus, the sentence is acceptable when the subject is replaced by a noun like *sensei* ‘teacher’, which can be interpreted as referring to a group of individuals, even though the noun does not have plural marking morphologically.



- b. *Ken ga teeburu no ue o (\*syokki ??) katazuke-ta.*  
 Ken NOM table GEN TOP ACC dish ?? clear-PST  
 ‘Ken cleared the table.’

In the variant in (29a), the theme is marked with accusative case and the source with ablative *kara*. (The source can sometimes be expressed as the possessor of the theme, as in *teeburu no syokki o katazukeru* [table GEN dish ACC clear] ‘clear the dish on the table’). In the other variant in (29b), the source is marked with accusative case, but the theme must be left unexpressed in the absence of an oblique marker that can be used for marking this argument (Kageyama 1981).<sup>11</sup>

Locative alternation verbs can take two distinct case frames because they can express change-of-location and change-of-state meanings (Okutsu 1981; Fukui, Miya-gawa and Tenny 1985; Kishimoto 2001a). This can be seen by the fact that compounding a locative alternation verb like *nuru* ‘paint’ with another verb sometimes results in impeding the locative alternation. When *nuru* is compounded with the verb *tukeru* ‘attach’, which signifies a directional movement, the component of lexical meaning indicating a change of state is removed from the verb *nuru*. Thus, only the material-object variant is allowed for the compound verb *nuri-tukeru* ‘paint-attach’.

- (30) a. *\*Ken wa akai penki de kabe o nuri-tuketa.*  
 Ken TOP red paint with wall ACC paint-attach-PST  
 ‘Ken painted the wall with red paint.’  
 b. *Ken wa kabe ni akai penki o nuri-tuketa.*  
 Ken TOP wall LOC red paint ACC paint-attach-PST  
 ‘Ken painted red paint on the wall.’

If *ageru* ‘up, finish’, which denotes a completion of action, is compounded with *nuru*, the meaning of motion is eliminated, which makes only the location-object variant available for the compound verb *nuri-ageru* ‘paint-up’.

- (31) a. *Ken wa akai penki de kabe o nuri-age-ta.*  
 Ken TOP red paint with wall ACC paint-up-PST  
 ‘Ken painted the wall with red paint.’

<sup>11</sup> Some locative alternation verbs have only the transitive use, but others have intransitive counterparts; in the case of intransitive verbs such as *tirakaru* ‘scatter (intr.)’ (cf. *tirakasu* ‘scatter (tr.)’), the alternation takes place between nominative subjects and oblique arguments. The verb *ahureru* ‘overflow’ represents a rare case that can take both the case frames available for verbs of filling and verbs of removal.

- b. \**Ken wa kabe ni akai penki o nuri-age-ta.*  
 Ken TOP wall LOC red paint ACC paint-up-PST  
 ‘Ken painted red paint on the wall.’

The examples involving the compound verbs *nuri-tukeru* and *nuri-ageru* make it clear that the possibility of the locative alternation is fixed on semantic grounds, and that locative alternation verbs are ambiguous, carrying both change-of-state and change-of-location meanings.

### 3 Case Marking in Complex Clauses

As discussed previously, it is generally true that the case marking patterns of arguments are determined by the type of predicate (in basic clauses), but some other case-marking patterns are instantiated in certain complex clauses. In this section, I will discuss some representative cases.

#### 3.1 ECM and Small-Clause Constructions

In Japanese, some case markings that are not available in basic clauses are found in certain syntactic contexts. For example, in the exceptional case marking (ECM) construction in (32a) and the small-clause construction in (32b), accusative case is assigned to the embedded subject.

- (32) a. *Ken wa [Mari o {kawai-i/??kawaikat-ta} to] omot-ta.*  
 Ken TOP Mari ACC {cute-PRS/cute-PST} COMP think-PST  
 ‘Ken thought Mari to be cute.’  
 b. *Ken wa [Mari o kawaiku] omot-te i-ru.*  
 Ken TOP Mari ACC pretty think-GER be-PRS  
 ‘Ken thinks Mari pretty.’

The examples in (32) show that when an adjectival predicate is embedded under a predicate like *omou* ‘think’, accusative case marking may be assigned to the subject of the embedded predicate. (Note that accusative case is not assigned to subjects in simple clauses.) Verbs that can take ECM complements include *omou* ‘think’, *sinziru* ‘believe’, and *katei-suru* ‘assume’, and verbs that can select small-clause complements include *omou* ‘think’ and *suru* ‘make’.

In both ECM and small-clause constructions, the matrix predicate can be assumed to license the accusative case marking on the embedded subjects, given that *omou* ‘think’ can take an accusative argument, as in *sono koto o omou* [that matter ACC

think] ‘think about that matter’. Moreover, the accusative-marked arguments in these constructions can be promoted to subjects when direct passivization applies to the upper predicates.

- (33) a. *Mari ga kawai-i to omow-are-ta.*  
 Mari NOM pretty-PRS that think-PASS-PST  
 ‘Mari was thought to be pretty.’  
 b. *Mari ga kawaiku omow-are-te i-ru.*  
 Mari NOM pretty think-PASS-GER be-PRS  
 ‘Mari is considered pretty.’

The fact suggests that in both ECM and small-clause constructions, the main predicate licenses accusative marking on the embedded subjects. Under the present perspective, this means that the v-head of the matrix predicate, possessing [ACC], values the Case feature on the embedded subjects in both ECM and small-clause constructions, as illustrated in (34) (abstracting away from irrelevant details).

- [illegible]

Given that the *v* head in the matrix clause values the Case feature on the accusative argument in the embedded clause, it is naturally expected that this argument can be promoted to a passive subject by applying passivization to the matrix verb, as in (33).

Several different views have been advanced for the syntactic structures of the ECM and small-clause constructions. In regard to the small-clause construction, some studies (Takezawa 1987; Kikuchi and Takahashi 1991) literally take the embedded small clause as constituting a clausal constituent, but there is also an analysis taking the embedded predicate and *omou* 'think' to form a complex predicate (Hoshi and Sugioka 2009). In the ECM clause in (32a), the complementizer *to* 'that' appears in the subordinate clause, but the embedded predicate cannot appear in the past form, which suggests that this predicate appears in the non-finite form. Arguably, the accusative marking on the ECM subject in (32a), as well as the small-clause subject in (32b), is licensed by the matrix predicate. Nevertheless, there is an issue over whether the ECM subject is located in the main clause via the raising of the embedded subject to the matrix object position (Kuno 1976; Tanaka 1992, 2002; Kawai 2006) or remains in the embedded clause (Hiraiwa 2005; Kaneko 1988; Sakai 1998).

Kuno (1976) provides a number of arguments in support of his 'raising' view for the accusative argument appearing in the ECM construction. First, a modal adverb like *orokanimo* 'stupidly', which is construed with the main predicate, can intervene

between the accusative subject and the embedded predicate in the ECM construction, as in (35a), but it cannot appear inside a finite subordinate clause, where the subject is marked with nominative case, as in (35b).

- (35) a. *Abe wa Ito o (orokanimo) tensai da to omot-te i-ru.*  
 Abe TOP Ito ACC (stupidly) genius COP COMP think-GER be-PRS  
 ‘Abe thinks Ito to be a genius (stupidly).’  
 b. *Abe wa [Ito ga (\*orokanimo) tensai da to] omot-te i-ru.*  
 Abe TOP Ito NOM (stupidly) genius COP COMP think-GER be-PRS  
 ‘Abe thinks that Ito is a genius (stupidly).’

The adverb *orokanimo* ‘stupidly’, which modifies the matrix verb, must appear in the matrix clause. This adverbial modification is possible even if the adverb is placed after the accusative-marked subject in (35a), which suggests that the ECM subject should be located in the matrix clause.

Secondly, a pronoun bearing accusative case in the ECM clause cannot be coreferential with the matrix subject, as in (36a), although a nominative-marked pronoun in the subject position of the embedded clause can be coreferential with the subject in the matrix clause, as in (36b).

- (36) a. *\*Yamada<sub>i</sub> ga kare<sub>i</sub> o tensai da to omot-te i-ru.*  
 Yamada NOM he ACC genius COP COMP think-GER be-PRS  
 ‘Yamada<sub>i</sub> thinks him<sub>i</sub> to be stupid.’  
 b. *?Yamada<sub>i</sub> ga [kare<sub>i</sub> ga tensai da to] omot-te i-ru.*  
 Yamada NOM he NOM genius COP COMP think-GER be-PRS  
 ‘Yamada<sub>i</sub> thinks he<sub>i</sub> is stupid.’  
 c. *\*Yamada<sub>i</sub> ga kare<sub>i</sub> o home-ta.*  
 Yamada NOM he ACC praise-PST  
 ‘Yamada<sub>i</sub> praised him<sub>i</sub>.’

A comparison of (36a) and (36c) shows that the ECM subject behaves like an object in a simple transitive clause, in that it cannot be coreferential with the matrix subject. Chiefly in light of data like (35) and (36), Kuno claims that the ECM subject marked with accusative case, unlike a nominative subject in an embedded clause, is a constituent in the matrix clause (see also Tanaka 1992, 2002; Takano 2003).

A non-raising view for the ECM subjects has also been advanced in the literature. For instance, Hiraiwa (2005) provides an example like (37) pertaining to indeterminate pronoun binding (Kishimoto 2001b), in support of the view that ECM subjects do not have to raise to the matrix clause.

- (37) a. *Abe wa [dare o tensai da to mo] omot-te i-na-i.*  
 Abe TOP anyone ACC genius COP COMP QU think-GER be-NEG-PRS  
 ‘Abe thinks no one to be a genius.’

- b. *Abe wa [dare ga tensai da to mo] omot-te i-na-i.*  
 Abe TOP anyone NOM genius COP COMP QU think-GER be-NEG-PRS  
 ‘Abe thinks that no one is a genius.’

If the sequence of *dare* ... *mo* is to serve as a negative polarity item, it is necessary for the indefinite pronoun *dare* ‘anyone’ to be bound by *mo* (under c-command) (Kuroda 1965; Kishimoto 2001b). Since the ECM subject *dare* in (37a), just like the nominative subject *dare* in (37b), can be bound by *mo* attached to the complementizer *to* ‘that’, Hiraiwa (2005) claims that accusative case on the ECM subject is licensed without raising to the matrix clause (see also Sakai 1996).

Another fact that deserves attention in the light of the ECM construction has to do with formal noun insertion. First, observe that the examples in (38) illustrate that the semantically empty noun *koto* ‘fact’ can be inserted into the object position, but not the subject position (Sasaguri 2000; Takubo 2010; Kishimoto 2004, 2005, 2013).

- (38) a. *Ken (\*no koto) ga Eri o sikat-ta.*  
 Ken (GEN fact) NOM Eri ACC scold-PST  
 ‘Ken scolded Eri.’
- b. *Ken ga Eri (no koto) o sikat-ta.*  
 Ken NOM Eri (GEN fact) ACC scold-PST  
 ‘Ken scolded Eri.’

Interestingly, the ECM subject whose accusative case is licensed by the matrix verb *omou* ‘think’ allows the semantically empty noun *koto* to be inserted, as in (39).

- (39) *Mari wa Ken (no koto) o tensai da to omot-te i-ru.*  
 Mari TOP Ken (GEN fact) ACC genius COP COMP think-GER be-PRS  
 ‘Mari thinks Ken to be a genius.’

Granted that the semantically empty noun *koto* can be inserted into an argument in object position, the fact suggests that the ECM subject is placed in the matrix clause. Note, however, that the possibility of scrambling differs depending on whether the accusative argument accompanies *koto* or not.

- (40) *Mari wa [tensai da to]<sub>i</sub> Ken \*(no koto) o t<sub>i</sub> omot-te i-ru.*  
 Mari TOP genius COP COMP Ken (GEN fact) ACC think-GER be-PRS  
 ‘Mari thinks Ken to be a genius.’

When the accusative subject accompanies *koto* ‘fact’, the scrambling of the embedded clause across the accusative subject does not result in deviance. By contrast, the embedded clause cannot be scrambled to the right of the accusative subject which does not occur with *koto*. This fact suggests that the accusative subject which accompanies *koto*, unlike the accusative subject without *koto*, appears in the object position of the matrix clause. If so, the clause with an ECM subject accompanying the semantically empty pronoun *koto* can be assumed to have a structure equivalent to one found in an English sentence like *The teacher said of Mary that she is honest*.

### 3.2 Nominative-Genitive Conversion

Let us next discuss so-called nominative-genitive conversion. Nominative-genitive conversion refers to the phenomenon that arguments – most typically, subjects – embedded in a relative or a noun-complement clause have a case-marking alternation between nominative *ga* and genitive *no*, as shown in (41).

- (41) a. *[gakusei {ga/no} kai-ta] ronbun*  
 student {NOM/GEN} write-PST paper  
 ‘the paper which the student wrote’  
 b. *[gakusei {ga/no} ku-ru] kanoosei*  
 student {NOM/GEN} come-PRS possibility  
 ‘the possibility that the student will come’

Needless to say, the subject is not allowed to bear genitive case marking when it appears in a matrix clause or a complement clause selected by *iu* ‘say’.

- (42) a. *Gakusei {ga/\*no} ki-ta.*  
 student {NOM/GEN} come-PST  
 ‘The student did not come.’  
 b. *Sensei wa [gakusei {ga/\*no} ki-ta to] it-ta.*  
 teacher TOP student {NOM/GEN} come-PST COMP say-PST  
 ‘The teacher said that the student came.’

There are a number of constraints barring nominative-genitive conversion even when arguments are embedded in noun-complement or relative clauses. When a complementizer is introduced in the embedded clause, as in (43), nominative-genitive conversion is precluded (Inoue 1976).

- (43) *[sensei {ga/\*no} ku-ru toiu] sirase*  
 teacher {NOM/GEN} come-PRS COMP notice  
 ‘the notice that the teacher will come’

Another constraint blocking the nominative-genitive conversion is the ‘transitivity’ constraint (Harada 1971; A. Watanabe 1996).<sup>12</sup>

- (44) [*gakusei* {*ga*/\**no*} *hon o kat-ta*] *mise*  
 student {NOM/GEN} book ACC buy-PST shop  
 ‘the shop where the student bought books’

As seen in (44), the nominative-genitive conversion is blocked when the clause includes an overtly realized accusative object.

There are various issues pertaining to nominative-genitive conversion, but one prominent theoretical issue regarding this conversion is how genitive case is licensed (see Maki and Uchibori 2008; Chapter 18 [Ochi, this volume]). Under one view (e.g. Miyagawa 1993, 2011; Ochi 2001), genitive case is licensed by a nominal element like N (or D), which appears outside a relative clause or a noun complement clause (the N/D licensing view), i.e. N/D values the Case feature of the genitive arguments under c-command. There is also the C-licensing view taking C to license genitive case, i.e. C values the Case feature of the genitive arguments. This view is argued for by Hiraiwa (2000a, 2005), who claims that C associated with the attributive form of the predicate is responsible for the genitive case marking, on the assumption that C Agrees with T and v to derive an attributive form of the predicate.

### 3.3 Passives and Causatives

In this section, I will discuss complex causative and passive verbs formed by adding the causative *-(s)ase* and passive *-(r)are* to main verbs. Both causative and passive constructions manifest mono-clausal case alignments even if bi-clausal structures are involved syntactically. Despite the fact that they have mono-clausal case alignments uniformly, their syntactic structures vary significantly according to the meanings they express.

To discuss passive formation first, the passive morpheme *-(r)are* serves to form two syntactically distinct passives, i.e. ‘direct passive’ and ‘indirect passive’ (and the latter is also referred to as ‘adversative passive’ because it implies an adversative effect on the subject: see Hoshi 1999).<sup>13</sup> The direct passive clause reduces the main verb’s valency by one, demoting the erstwhile subject to an adjunct phrase.

<sup>12</sup> Some dialectal variations are observed for this constraint. See Harada (1971, 1976b) for discussion on this point.

<sup>13</sup> In the literature on Japanese, the so-called ‘possessor’ passives are sometimes treated as forming an independent class, owing to the fact that they show certain intermediate properties that crisscross the direct and indirect passives (see e.g. Nitta 1997; Ishizuka 2012; Masuoka 2000). Under this view, a three-way classification of direct, indirect, and possessor passives is posited. For reasons of space, I will not discuss the third kind of passive, i.e. the possessor passive.

- (45) a. *Sensei ga gakusei o home-ta.*  
 teacher NOM student ACC praise-PST  
 'The teacher praised the student.'
- b. *Gakusei ga sensei ni home-rare-ta.*  
 student NOM teacher DAT praise-PASS-PST  
 'The student was praised by the teacher.'

By contrast, indirect passivization may apply to essentially any kind of verb and increases the verb's valency by adding a new subject that has the meaning of an affected experiencer, with a concomitant change of the nominative marking on the original subject to dative *ni*. A typical example is found in (46b), which is derived from (46a) via indirect passivization.

- (46) a. *Kodomo ga nai-ta.*  
 child NOM cry-PST  
 'The child cried.'
- b. *Ken ga kodomo {ni/\*niyotte} nak-are-ta.*  
 Ken NOM child {DAT/\*by} cry-PASS-PST  
 'Ken was adversely affected by the child crying.'

The agent is optional in direct passive sentences. When realized, it is marked with the dative *ni*, the ablative *kara* 'from', or the postposition *niyotte* 'by' (see e.g. Masuoka 1987; Kuroda 1979). By contrast, the agent in indirect passive sentences is invariably marked with the dative *ni*.<sup>14</sup>

The two types of passive clauses show some behavioral differences (Kuroda 1965; Kuno 1973; Howard and Niyekawa-Howard 1976). The examples in (47) show that while only the nominative argument can be the antecedent of subject-oriented reflexive *zibun* 'self' in a direct passive clause, the dative as well as the nominative argument can serve as the antecedent of *zibun* in an indirect passive clause.

<sup>14</sup> As pointed out by John Haig, the *ni*-marked agent nominal can be omitted when it is understood to refer to an unknown or unspecified agent, as in (i) and (ii).

- (i) *Saihu o sur-are-ta!*  
 purse ACC steal-PASS-PST  
 'I got my purse stolen!'
- (ii) A: *Doo si-ta no?*  
 how do-PST Q  
 'What happened (to you)?'
- B: *Asi o hum-are-te, aruk-e-na-i.*  
 leg ACC step.on-PASS-GER walk-POTEN-NEG-PRS  
 'I got my leg stepped on, so I cannot walk.'



- (47) a. *Ken<sub>i</sub> ga Mari<sub>j</sub> ni zibun<sub>i/\*j</sub> no heya de home-rare-ta.*  
 Ken NOM Mari by self GEN room PLC praise-PASS-PST  
 (lit.) ‘Ken was praised by Mari in self’s room.’
- b. *Ken<sub>i</sub> ga Mari<sub>j</sub> ni zibun<sub>i/j</sub> no heya de nak-are-ta.*  
 Ken NOM Mari by self GEN room PLC cry-PASS-PST  
 (lit.) ‘Ken was adversely affected by Mary’s crying in self’s room.’

Since the indirect passive, as opposed to the direct passive, allows two distinct arguments to serve as the antecedent of reflexive *zibun*, the indirect passive can be assumed to have a bi-clausal structure despite its mono-clausal case morphology (For some proposals on the syntax of passives, see Washio 1989–1990; Hoshi 1994; Ishizuka 2012).

In the case of causative verb formation, verbal complexes are formed by agglutinating the causative *-(s)ase* to verbal predicates. Causativization brings about the effect that the number of arguments in the clause is increased by one (i.e. a causer argument is added to the base clause). The causative morpheme *-(s)ase* attaches to any type of verb (to the exclusion of verbs describing uncontrollable events/states). The causative constructions display mono-clausal case-marking patterns, as in (48).

- (48) *Ken ga Mari ni hon o yom-ase-ta.*  
 Ken NOM Mari DAT book ACC read-CAUS-PST  
 ‘Ken {made/let} Mari read a book.’

Nevertheless, a causative clause like (48) has a bi-clausal structure syntactically. Empirical evidence comes from the fact that both causer and causee arguments can be the antecedent of subject-oriented *zibun*, as seen in (49).

- (49) *Ken<sub>i</sub> ga Mari<sub>j</sub> ni zibun<sub>i/j</sub> no heya de hon o yom-ase-ta.*  
 Ken NOM Mari DAT self GEN room PLC book ACC read-CAUS-PST  
 ‘Ken {made/let} Mari read a book in self’s room.’

Semantically speaking, causative sentences with *-(s)ase* can indicate ‘directive causation’ and ‘manipulative causation’ (Shibatani 1976). When the main verb is intransitive, the ‘directive versus manipulative’ distinction is manifested in the case marking of the causee argument (dative *ni* in directive causation (50a) and accusative *o* in manipulative causation (50b)).

- (50) a. *Hahaoya ga kodomo ni suwar-ase-ta.*  
 mother NOM child DAT sit-CAUS-PST  
 ‘Mother let her child sit down.’

- b. *Hahaoya ga kodomo o suwar-ase-ta.*  
 mother NOM child ACC sit-CAUS-PST  
 'Mother made her child sit down.'
- c. *Oziisan ga hana {\*ni/o} sak-ase-ta.*  
 old.man NOM flower {DAT/ACC} bloom-CAUS-PST  
 'The old man {let/made} the flower bloom.'

Kuroda (1965, 1978) proposes an analysis invoking raising for *ni*-marked causee in directive causatives, and NP-deletion for the *o*-marked causee in manipulative causatives. On the other hand, Inoue (1976) and Nakau (1973) argue for the NP-deletion (or control) analysis for directive causatives, and the raising analysis for manipulative causatives, on the basis that the *ni*-marked causee is confined to animate NPs, but the *o*-marked causee need not be animate, as seen in (50c) (see also Terada 1990; Kitagawa 1986; Harley 1995; Tonoike 1978).

If transposed into a more recent analysis, the two kinds of causative sentences can be assumed to have control and complementation structures, as schematically illustrated in (51) (see Miyagawa 1999).

- (51) a. [<sub>TP</sub> Causer Causee<sub>i</sub> [<sub>VP</sub> PRO<sub>i</sub> V-CAUS] T]  
 b. [<sub>TP</sub> Causer [<sub>VP</sub> Causee V-CAUS] T]

Since the directive causative needs to have the causee which refers to an individual having control over the action denoted by the verb, it is confined to an animate argument. Given that a contrast in acceptability is observed in regard to the animacy when the causee argument is marked with dative case, but not with accusative case, as in (50c), it would be reasonable to postulate that a directive causative sentence like (50a) has the structure in (51a), while a manipulative causative sentence like (50b) has the structure in (51b).

When the main verb is transitive, the distinction of directive versus manipulative interpretations is not reflected in the surface case marking, because the causee argument is invariably marked with dative case, as in (52).

- (52) *Hahaoya ga kodomo {ni/\*o} hon o yom-ase-ta.*  
 mother NOM child {DAT/\*ACC} book ACC read-CAUS-PST  
 'Mother {made/let} her child read books.'

When the main verb is transitive, the causative sentence carries the case frame <NOM, DAT, ACC> regardless of whether it expresses manipulative or directive causation. It has been assumed by many researchers (e.g. Harada 1973; Inoue 1976; Shibatani 1978, 1990) that the exclusion of the accusative case on the causee with

the causativized transitive verb is due to the ‘double-*o* constraint’, which stipulates that a single clause cannot have two or more *o*-marked arguments.

Furthermore, it is claimed by Kuroda (1978) and Poser (2002), among others, that the double-*o* constraint is divided into two types, mainly on the basis that sentences like (53) show distinct syntactic behaviors.

- (53) a. *\*John ga kodomo o hon o yom-ase-ta.*  
           John NOM child ACC book ACC read-CAUS-PST  
           ‘John made the child read the book.’
- b. *?\*John ga kodomo o hamabe o aruk-ase-ta.*  
           John NOM child ACC beach ACC walk-CAUS-PST  
           ‘John made the child walk on the beach.’

While the causative clause in (53a) is formed on the ordinary transitive clause in (54a), (53b) is derived from (54b), which contains a so-called ‘traverse object’, via causativization.

- (54) a. *Kodomo ga hon o yon-da.*  
           child NOM book ACC read-PST  
           ‘The child read the book.’
- b. *Kodomo ga hamabe o arui-ta.*  
           child NOM beach ACC walk-PST  
           ‘The child walked on the beach.’

In (53a) and (53b), it is not possible to mark the causee with accusative case. The two sentences in (53) are excluded, due to the presence of two accusative arguments. This gives us the impressions that the same double-*o* constraint rules out the two causative sentences. Nevertheless, these two causative sentences behave differently in some contexts. There are a number of linguistic phenomena that distinguish between (53a) and (53b) (see Poser 2002), but one typical case (observed originally by Kuroda 1978) is found in (55), where one of the two accusative arguments is placed in cleft-focus position.

- (55) a. *\*John ga kodomo o yom-ase-ta no wa hon (o) da.*  
           John NOM child ACC read-CAUS-PST that TOP book ACC COP  
           ‘It was the book that John made the children read.’
- b. *John ga kodomo o aruk-ase-ta no wa hamabe (o) da.*  
           John NOM child ACC walk-CAUS-PST that TOP beach ACC COP  
           ‘It was on the beach that John made the child walk.’

Example (55a) is unacceptable even if one accusative argument is placed in cleft-focus position, separate from another accusative argument. On the other hand, (55b), where pseudo-clefting has applied to one of the two accusative arguments, is acceptable. The syntactic behavior of the two causative sentences, which are both constrained by the double-*o* constraint, diverges in certain contexts, and this fact provides a motivation for the claim that the double-*o* constraint must be divided into two types.<sup>15</sup>

### 3.4 Multiple Subject Constructions and Possessor Raising

Japanese has a multiple nominative construction, where two or more nominative-marked arguments occur in a single clause. In this section, I will discuss some facts regarding this construction.

First, observe that Japanese allows a non-thematic argument to appear, marked in the nominative case, as seen by the representative examples given in (56).

- (56) a. *Zoo ga hana ga naga-i.*  
 elephant NOM trunk NOM long-PRS  
 ‘As for the elephant, its trunk is long.’  
 b. *Nyuu Yooku ga koosoo-kentiku ga oo-i.*  
 New York NOM high.rise-building NOM many-PRS  
 ‘It is New York that has many high-rise buildings.’

The type of construction that is found in (56) is often referred to as the ‘major subject’ construction, since the initial nominative phrase is not the thematic subject of the verb, but is an extra argument (i.e. the major subject) which is generally assumed to be licensed with an ‘aboutness’ relation to the thematic subject on its right.

<sup>15</sup> The double-*o* constraint applies to some other domains of Japanese syntax. For instance, Saito and Hoshi (2000) regard a sentence like (ia) as excluded by a weaker version of the double-*o* constraint, in the light of the acceptability of (ib).

- (1) a. *?\*Mary ga John ni toti o zyooto o si-ta.*  
 Mary NOM John DAT land ACC giving ACC do-PST  
 ‘Mary gave a piece of land to John.’  
 b. *Mary ga John ni zyooto o si-ta no wa toti (o) da.*  
 Mary NOM John DAT giving ACC do-PST that TOP land ACC COP  
 ‘It was a piece of land that Mary gave a land to John.’

Saito and Hoshi (2000) claims that the verbal noun undergoes LF incorporation to the verb *suru* ‘do’, so that (ia) is constrained by the weaker double-*o* constraint.



When subjectivization applies to the genitive argument in (57a), the multiple nominative-subject sentence in (56a) is derived. If this rule applies to the initial locative argument in (57b), (56b) is derived. Subjectivization has the effect of creating an extra (major) subject argument, because the thematic subject retains its subject status even when a possessor or a locative argument is marked with nominative case by this rule (Kuno 1973, 1978; and others).

Moreover, subjectivization can be applied iteratively in a single clause, as long as the added nominative argument is licensed with an ‘aboutness’ relation to the argument on its right, thereby creating a ‘multiple nominative-subject construction’, as in (59a).

- (59) a. *Bunmeikoku ga dansei ga heikinzyumyoo ga mizika-i.*  
civilized.country NOM man NOM average.life.span NOM short-PRS  
‘It is in the civilized countries that males’ average life span is short.’
- b. [*Bunmeikoku no dansei no heikinzyumyoo*] *ga mizika-i.*  
civilized.country GEN man GEN average.life.span NOM short-PRS  
‘It is the average life span of males of civilized countries that is short.’

According to Kuno (1973), (59a) is derived by applying subjectivization iteratively to the genitive arguments in (59b).

While Kuno (1973) claims that subjectivization gives rise to the multiple nominative-subject sentences in (56), Kuroda (1988) argues that a multiple nominative-subject sentence like (60) is derived via base-generation.

- (60) *Kono koma ga iro ga kirei-da.*  
this spinning.top NOM color NOM pretty-PRS  
‘The color of this spinning top is pretty.’

Kuroda bases his argument on the fact that in a sentence like (60), either of the two nominative phrases is allowed to appear in cleft-focus position via pseudo-clefting.

- (61) a. *Iro ga kirei-na no wa kono koma da.*  
color NOM pretty-PRS that TOP this spinning.top COP  
‘It is this spinning top that the color is pretty.’
- b. *Kono koma ga kirei-na no wa iro da.*  
this spinning.top NOM pretty-PRS that TOP color COP  
‘It is the color that this spinning top is pretty.’

In (56a), by contrast, only the initial nominative phrase can be moved to the cleft-focus position, as seen in (62).

- (62) a. *Hana ga naga-i no wa zoo da.*  
 trunk NOM long-PRS that TOP elephant COP  
 ‘It is the elephant that its trunk is long.’
- b. *?\*Zoo ga naga-i no wa hana da.*  
 elephant NOM long-PRS that TOP trunk COP  
 ‘It is its trunk that the elephant is long.’

The major subject in (56a) is sanctioned by holding an ‘aboutness’ relation with the thematic subject on the right. (62) shows that in this type of major-subject construction, the thematic subject cannot be positioned in the cleft-focus position. Apparently, this constraint does not apply to (60), and hence both sentences in (61) are acceptable. In the light of this fact, Kuroda claims that in (60), the two arguments *koma* and *iro* are base-generated as subjects, because the subject theta role (i.e. the theme) that the predicate bears is assigned to both arguments.<sup>17</sup>

Presumably, multiple nominative-subject constructions can be derived from several different sources, but as far as (56a) is concerned, it can be assumed that an extra nominative argument is created via possessor raising from within its host possessed nominal. The view that (56a) is derived from (57a) via possessor raising gains support from the facts of possessor honorification, which is made available by a nominal honorific marker like *o-* (attached to native Japanese nouns) or *go-* (attached to Sino-Japanese nouns) (see Harada 1976a; Kishimoto 2013).

First, observe that possessor honorification is legitimate if the genitive possessor, which refers to a person worthy of deference, appears in the specifier position of the nominal to which a possessor-honorific marker is attached, as (63) shows.

- (63) *Ito-sensei no o-kuti*  
 Ito-teacher GEN HON-mouth  
 ‘Prof. Ito’s mouth’

Possessor honorification normally does not target a subject merged externally with vP (i.e. the subject base-generated in Spec-vP), even if a body-part expression is related to the subject semantically, as (64) shows.

<sup>17</sup> The order of the two arguments is fixed in the double nominative-subject constructions in (56a) and (60), so that the following sentences are not acceptable.

- (1) a. *?\*Hana ga zoo ga naga-i.*  
 trunk NOM elephant NOM long-PRS  
 ‘The trunk, the elephant is long.’
- b. *?\*Iro ga koma ga kirei-da.*  
 color NOM spinning.top NOM pretty-PRS  
 ‘The color, the spinning top is pretty.’

This fact suggests that an ‘aboutness’ relation needs to obtain for the two-arguments to appear, and hence poses a potential problem on Kuroda’s (1988) analysis.

- (64) a. *\*Ito-sensei ga o-kuti o tugun-da.*  
 Ito-teacher NOM HON-mouth ACC shut-PST  
 ‘Prof. Ito shut her mouth.’
- b. *?\*Ito-sensei ga o-kuti o sawat-ta.*  
 Ito-teacher NOM HON-mouth ACC touch-PST  
 ‘Prof. Ito touched his mouth.’

In both sentences in (64), the subject of the transitive verb is identified as the possessor of the body-part noun *kuti* ‘mouth’, but since this clause is transitive, the subject must be selected by the verb, and hence, is not created via possessor raising. In (64), even if an invisible possessor located within the object nominal is coreferential with the subject, possessor honorification is not licensed (unless the possessor is turned into an honorific form by adding an honorific affix, which would be impossible with an invisible pronoun, as in *\*go- $\phi$*  [HON- $\phi$ ] for obvious morphological reasons). Given that the subject cannot be an argument created by possessor raising in (64), it is easy to see that possessor honorification fails in (64), since the possessive relation between the subject and the body-part noun is obtained through binding.

Note that possessor-honorific sentences are often improved if they additionally invoke subject honorification.

- (65) *Ito-sensei ga o-kuti o o-sawari-ni-nat-ta.*  
 Ito-teacher NOM HON-mouth ACC HON-touch-DAT-become-PST  
 ‘Prof. Ito touched her mouth.’

The increased acceptability of (65) comes from the fact that an honorific relation is established between the predicate and the subject via subject honorification (but not possessor honorification). This fact shows that honorification is sanctioned if the target toward which deference is directed is successfully linked to an honorific marker, satisfying the structural conditions on possessor or subject honorification. This in turn suggests that (64) is not acceptable since the subject is not anchored to any honorific marker.

Possessor honorification is not legitimate if the subject establishes a possessive relation with the possessum merely by way of binding, as in (64). In the major-subject constructions, by contrast, possessor honorification targeting the possessor is allowed regardless of whether the possessor is realized inside or outside the possessum to which its possessor-honorific marker is added, as in (66).

- (66) a. *[Ito-sensei no o-kuti ga] koe-te i-ru.*  
 Ito-teacher GEN HON-mouth NOM fattening be-PRS  
 ‘Prof. Ito is dainty about her food.’



- b. *Ito-sensei ga (kanari) o-kuti ga koe-te i-ru.*  
 Ito-teacher NOM (fairly) HON-mouth NOM fatten-GER be-PRS  
 ‘Prof. Ito is (fairly) dainty about her food.’

Possessor honorification is established between the possessor and the possessum when the possessor appears inside the possessum nominal. Thus, the acceptability of (66b), coupled with the acceptability of (66a), can be taken as evidence that in (66b), the nominative-marked possessor nominal appears in the clause via extraction from within the possessum nominal.

### 3.5 Tough-Construction and Desiderative Construction

In this section, I turn to the discussion of the *tough*-construction and the desiderative construction. These constructions invoke mono-clausal case-marking patterns, despite the fact that they involve bi-clausal structures. Notably, both non-stative and stative case-marking patterns are available for the *tough*-construction and the desiderative construction (see e.g. Inoue 1976; Kuroda 1978, 1987).

First, let us discuss the *tough*-construction, which is formed by embedding a verb under a so-called *tough*-adjective (e.g. *-zurai* ‘hard’, *-nikui* ‘difficult’, *-yasui* ‘easy’), as exemplified in (67).

- (67) a. *Gakusei ga misu o minogasi-yasu-i.*  
 student NOM mistake ACC overlook-easy-PRS  
 ‘Students easily overlook mistakes.’
- b. *Gakusei {ni/ga/nitotte} kono zisyo ga tukai-niku-i.*  
 student {DAT/NOM/for} that dictionary NOM use-difficult-PRS  
 ‘It is difficult for students to use that dictionary.’

In the *tough*-clauses in (67), which comprise a transitive verb, the object may be marked with either nominative or accusative case. The two types of *tough*-sentences in (67) express different meanings. When the *tough*-clause takes a non-stative case-marking pattern, as in (67a), a tendency or a dispositional meaning is encoded. When the clause takes a stative case-marking pattern, as in (67b), it expresses the sense of the subject’s control (Inoue 1978; Saito 1982). The interpretive facts suggest that (67a) should involve a raising structure, while (67b) should form a control structure, i.e. the sentences have the two distinct syntactic configurations given in (68).

- (68) a. [<sub>TP</sub> *Gakusei ga* [~~*Gakusei-ga*~~ *misu o minogasi*] *yasu-i*]  
 b. [<sub>TP</sub> *Gakusei ni/ga/nitotte* [<sub>PRO</sub> *kono zisyo ga tukai*] *niku-i*]

When the desiderative predicate carries a dispositional or tendency meaning, a raising construction is formed, where the embedded subject is raised to the matrix clause, as in (68a). By contrast, when the desiderative predicate expresses the meaning of the subject's control, it takes an experiencer argument plus a control complement clause, as in (68b).

It is reasonable to state here that in the *tough*-construction, the stative case-marking pattern <DAT/NOM, NOM> is licensed by the *tough*-adjective, and the non-stative pattern <NOM, ACC> by the lower main verb. The difference in the structure of the two variants can be confirmed by the contrast in acceptability between (69a) and (69b).

- (69) a. *Kono konpuutaa ga netu o moti-yasu-i.*  
           this computer NOM heat ACC hold-easy-PRS  
           'This computer easily gets hot.'
- b. \**Kono konpuutaa {ni/ga/nitotte} netu ga moti-yasu-i.*  
           this computer {DAT/NOM/for} heat NOM hold-easy-PRS  
           'It is easy for this computer to get hot.'

Both clauses in (69) have the structure where a transitive verb taking an inanimate subject is embedded under the *tough*-adjective. Given that inanimate subjects can appear in raising but not control clauses, it is reasonable to say that the *tough*-sentences in (67) have the two distinct clause structures depicted in (68) – control and raising structures – which are distinguished by the type of case marking available for the arguments in the clause.

Secondly, the desiderative construction in (70) displays similar variation in case marking, in allowing both stative and non-stative case-marking patterns.

- (70) *Ken ga kono zisyo {o/ga} tukai-takat-ta.*  
       Ken NOM that dictionary {ACC/NOM} use-want-PST  
       'Ken wanted to use that dictionary.'

In (70), the embedded verb is transitive, and its object may be assigned either nominative or accusative case marking. In the desiderative sentence in (70), as opposed to the *tough*-sentences in (67), no significant difference in meaning is observed, irrespective of whether the object of the verb is marked with accusative or nominative case. In addition, an inanimate subject cannot be embedded in the desiderative construction.

- (71) \**Kono konpuutaa ga netu {o/ga} moti-ta-i.*  
       this computer NOM heat {ACC/NOM} hold-want-PRS  
       'This computer wants to get hot.'

Given the unacceptability of (71), it is easy to see that the desiderative construction involves a control structure regardless of whether the clause has a stative or non-stative case-marking pattern, as in (72).

(72) [<sub>TP</sub> *Ken ga* [<sub>PRO</sub> *kono zisyo* {*o/ga*} *tukai*] *takat-ta*]

This fact is not too surprising, because another desiderative predicate *hosii* ‘want’, which does not take a clausal complement, is allowed to take both stative and non-stative case-marking patterns, as (73) shows (see Sugioka 1986).

(73) *Watasi wa sono hon {o/ga} hosi-i.*  
 1.SG TOP that book {ACC/NOM} want-PRS  
 ‘I want that book.’

The facts of the simple desiderative predicate *hosii* ‘want’ in (73) suggest that in the desiderative construction in (70), the two distinct case-marking patterns should be made available by the desiderative predicate, i.e. the desiderative predicate licenses both stative and non-stative case-marking patterns.

### 3.6 Periphrastic Auxiliary Verb Constructions

This section discusses periphrastic auxiliary verb constructions, which are formed by making use of *hojo-dōshi* ‘auxiliary verb’, in combination with main verbs taking the gerundive (*-te*) form (see e.g. Teramura 1984; Masuoka 1987). In Japanese, there are two major periphrastic auxiliary verb constructions – the resultative and benefactive constructions – which exhibit interesting case-marking alternations.<sup>18</sup>

First, periphrastic resultative constructions can be formed by combining a verb with the auxiliary verb *aru* ‘be’, which originates from the existential verb *aru* ‘be’. The auxiliary verb indicates the completion of an action or an event.

(74) *Watasi wa sono hon o tyuumon-si-te ar-u.*  
 1.SG TOP that book ACC order-do-GER be-PRS  
 ‘I have already ordered this book.’

The periphrastic resultative construction signifies that an action has been taken for some specific purpose (Teramura 1984). Thus, the described action of ‘ordering’ in (74)

<sup>18</sup> The term *hojo dōshi* ‘auxiliary verb’ is used in descriptive studies of Japanese grammar. A limited number of auxiliary verbs are usable in the constructions at issue, which include verbs like *kuru* ‘come’, *iku* ‘go’, and *oku* ‘put’ (see Nakatani 2013). These verbs generally take either subject-control or subject-raising structures, and do not trigger case-marking alternations, unlike *aru* ‘be’ and *ageru/morau* ‘give/take’ discussed in this section.

is construed as purposeful, and (74) is taken to describe some preparatory action. (Matsumoto 1990).

There are two types of periphrastic resultative constructions – one is a transitivity-maintaining type, as in (74), and the other intransitivizing type (Masuoka 1987). The intransitivizing type, which expresses a volitional action to be taken in preparation for some purpose just like the transitivity-maintaining type, additionally assumes a passive-like function, promoting a theme (i.e. an object) to the subject while defocusing an agent, as in (75) (Martin 1975; Masuoka 1987; Matsumoto 1990).

- (75) *Syorui ga (\*Ken niyotte) yabut-te at-ta.*  
 document NOM (\*Ken by) tear-GER be-PST  
 ‘The document was torn purposefully (\*by Ken).’

In the periphrastic resultative construction in (75), unlike in the direct passive construction, an agent is not allowed to be realized syntactically, although the existence of an agent is implied semantically.

Given the apparent passive-like behavior in (75), one might be tempted to argue that in the intransitivizing type of resultative reconstruction, the theme argument appears in the subject position as a result of A-movement, i.e. movement of the theme argument from the object position of the embedded main verb to the subject position in the matrix clause, as depicted in (76).

- (76) [TP Theme [ Theme V ] be T ]  
 ↑

Nevertheless, this analysis is called into question because the subject of the periphrastic construction need not be an argument of the verb embedded directly under *aru*, as seen in (77a).

- (77) a. *Sono hon ga gakusei ni yom-u yooni it-te ar-u (koto)*  
 that book NOM student DAT read-PRS COMP say-GER be-PRS fact  
 (lit.) ‘(the fact that) that book was told to the students to read’  
 b. \**Sono hon ga gakusei ni yom-u yooni*  
 that book NOM student DAT read-PRS COMP  
*iw-are-ta (koto)*  
 say-PASS-PST fact  
 (lit.) ‘(the fact that) that book was told to the students to read’

In (77a), the theme argument counts as the object of the verb *yomu* ‘read’, which appears in the complement clause selected by *iu* ‘say’. Since direct passivization applying to the verb *iu* ‘say’ cannot promote the object of *yomu* to the subject, as

shown in (77b), it is reasonable to state that the theme argument in (77a) does not appear in the subject position as a result of A-movement. In addition, the resultative *aru* can take only the type of verb (or verb phrase) describing an action that brings out a certain resultant state for the object: this is also a restriction which is not shared by direct passives.<sup>19</sup>

The benefactive construction where an extra ‘benefactive’ argument is added to the clause can be constructed from the auxiliary verbs *yaru/ageru* ‘give’ or *morau/itadaku* ‘receive’ (Shibatani 1996). The benefactive construction with *ageru/yaru* ‘give’ behaves similarly to the English double object construction, in that the beneficiary argument is marked with the dative case, as in (78).

- (78) *Okaasan ga kodomo ni ringo o mui-te age-ta.*  
 Mother NOM child DAT apple ACC peel-GER give-PST  
 ‘mother peeled an apple for her child.’

With the benefactive verb *morau* ‘receive’, on the other hand, the beneficiary is realized as the nominative subject, as seen in (79).

- (79) a. *Kodomo ga okaasan ni ringo o mui-te morat-ta.*  
 child NOM mother DAT apple ACC peel-GER get-PST  
 ‘The child had his mother peel an apple (for him).’  
 b. *Ken ga Mary ni itiba ni it-te morat-ta.*  
 Ken NOM Mary DAT market LOC go-GER get-PST  
 ‘Ken had Mary go to the market (for him).’

Intransitive-based benefactive sentences like (79b) can be formed with *morau/itadaku* ‘receive’, but not with *yaru/ageru* ‘give’. Accordingly, (80) is not acceptable.

- (80) \**Ken ga Mary ni itiba ni it-te age-ta.*  
 Ken NOM Mary DAT market LOC go-GER give-PST  
 ‘Ken had Mary go to the market (for him).’

It remains to be seen why such a constraint exists in the benefactive constructions formed on the auxiliary verbs *yaru/ageru*.

<sup>19</sup> The ‘resultant state’ here refers to a broader range of pragmatically implied results. For example, although *senaka o osu* ‘push someone’s back’ cannot occur in the resultative *aru* construction, *suitti o osu* ‘push the switch’ can.

## 4 Subject Case and Tense

Having looked at how the case-marking of arguments is determined in simple as well as complex clauses, we are now in a position to address one theoretical issue on case-marking, which concerns the nominative-case constraint. In the following discussion, I suggest that the nominative-case constraint should be construed as a local case-marking constraint which applies when the subject is marked with dative case.

To begin, recall the following case-marking patterns obtained for a transitive potential verb like *kake-e-ru* ‘can write’.

- (81) a. *Ken ga ronbun {o/ga} kak-e-ru.*  
           Ken NOM paper {ACC/NOM} write-POTEN-PRS  
           ‘Ken can write a paper.’
- b. *Ken ni ronbun {ga/\*o} kak-e-ru.*  
           Ken DAT paper {NOM/\*ACC} write-POTEN-PRS  
           ‘Ken can write a paper.’

When the subject has nominative case, as in (81a), the object can be marked with either accusative or nominative case. When the subject is marked with dative case, as in (81b), the object can be marked with nominative case, but not with accusative case. As noted in section 2.1, the absence of the case array <DAT, ACC> for transitive potential verbs is considered to come from the nominative-case constraint i.e. the requirement that a finite clause needs to have at least one nominative argument in it (Shibatani 1978).

Given that ordinary finite clauses contain nominative subjects, it is often assumed that nominative case is assigned to subjects as a default case (Kuroda 1978; Kuno 1973; Shibatani 1978; Fukui 1986). Finite clauses are, more often than not, required to include a nominative argument in them, but it is also true that there are constructions that need not comprise any nominative argument. The oblique-subject constructions in (82) provide a case in point.

- (82) a. *Sensei-tati de keikaku o tate-ta.*  
           teacher-PL INS plan ACC make-PST  
           ‘The teachers drew up the plan.’
- b. *Watasi kara sono koto o hanas-u.*  
           1.SG ABL that fact ACC talk-PRS  
           ‘I will talk about that matter.’

The oblique-subject constructions in (82) are derived by replacing nominative case on subjects with alternative oblique marking, such as ablative *kara* and instrumental

*de* (Kishimoto 2010). In both sentences in (82), no nominative argument appears in the clause, but the sentences are acceptable, which suggests that the nominative-case constraint does not apply to the oblique-subject constructions. Furthermore, the nominative-case constraint does not apply to simple clauses headed by certain meteorological and time-denoting predicates (Kuroda 1978; Kishimoto, Kageyama and Sasaki 2015; Kishimoto 2016).

- (83) a. *Kinoo        hidoku    hubui-ta.*  
          yesterday   terribly   snow.storm-PST  
          ‘It snow-stormed terribly yesterday.’
- b. *Iti-zikan   si-tara, (kare   wa   kaer-u        daroo).*  
          one-hour   do-if       he       TOP   return-PRS   will  
          ‘When one hour has gone by, (he will return home).’

The meteorological predicate *hubuku* ‘snow-storm’ and the time-denoting verb *suru* ‘pass’ do not select any argument, and so no nominative argument appears in both clauses in (83). Even so, they are fully acceptable.

The facts noted above give rise to the question of why the nominative-case constraint constrains some clauses but not others.<sup>20</sup> In answer to this question, I suggest that the difference comes from the property of tense associated with the clauses. Note that T is the licenser of nominative Case (see e.g. Takezawa 1987, 1998), and that the Case feature [NOM] on T needs to be deleted in agreement with a nominative argument for the derivation to converge. Given this, the facts regarding the nominative-case constraint fall out on the two assumptions: (1) Japanese makes two types of T available – one type without the Case feature [NOM], and another, more ordinary, type with [NOM], and (2) T bears the most prominent Case feature of [NOM] whenever T enters into a Case-valuation relation with an argument.

To be concrete, let us consider why the clauses in (82) are not constrained by the nominative-case constraint. First, when the subjects in ordinary clauses are marked with nominative case, T enters a Case valuation relation with them.

<sup>20</sup> The present discussion is limited to cases with non-embedded finite clauses. When a finite clause appears in embedded contexts, the nominative-case constraint is often not observed. For instance, a relative clause like (i) is fully acceptable without an overtly realized nominative argument.

(i) [*hon o yoma-nakat-ta*] *hito*  
       book ACC read-NEG-PST    person  
       ‘the person who did not read the book’

It is conceivable that the relative clause involves a null relative operator moved from argument position to operator position. If T with [NOM] can value the Case feature carried by the null operator, it naturally falls out that no nominative argument needs to be overtly manifested in (i). It should be noted, however, that the analysis that accounts for the absence of the nominative-case effect in a relative clause like (i) cannot be extended to the oblique-subject constructions.

$$\begin{array}{c}
 (84) \quad [\text{SBJ}]_{[\text{Case: } ]} \rightarrow [\text{Case: NOM}] \dots T_{[\text{NOM}]} \\
 \qquad \qquad \downarrow \qquad \qquad \downarrow \\
 \qquad \qquad \phi \qquad \qquad \phi
 \end{array}$$

This means that the Case feature on T can be deleted after valuing the Case feature on the nominative subject. On the other hand, if the subjects are marked with *kara* or *de*, as in (82), T does not value the Case feature on the subjects. In this case, the inert type of T without [NOM] can be merged, the result of which is that the clause does not require any nominative argument, since this type of T does not value any Case feature on arguments.

$$(85) \quad [\text{SBJ ABL/INST} \dots T_{\phi}]$$

Consequently, the oblique-subject constructions in (82), whose subject receives oblique marking, in lieu of nominative case, are not excluded by the nominative-case constraint. Likewise, the meteorological and temporal constructions in (83) are not ruled out by the nominative-case constraint, since T can appear without [NOM]. In short, if T appears without [NOM], the derivation can converge without any nominative argument.

By contrast, dative-subject constructions need to include at least one nominative argument, i.e. the nominative-case constraint is in force. This fact follows straightforwardly, given that the dative-subject construction must have T furnished with [NOM], alongside [DAT].

$$\begin{array}{c}
 (86) \quad \text{a.} \quad [\text{SBJ}]_{[\text{Case: } ]} \rightarrow [\text{Case: DAT}] \quad \text{OBJ}_{[\text{Case: } ]} \rightarrow [\text{Case: NOM}] \quad \text{V-v} \quad T_{[\text{DAT, NOM}]} \\
 \qquad \qquad \downarrow \qquad \qquad \qquad \downarrow \qquad \qquad \downarrow \quad \downarrow \\
 \qquad \qquad \phi \qquad \qquad \qquad \phi \qquad \qquad \phi \quad \phi \\
 \\
 \qquad \text{b.} \quad *[\text{SBJ}]_{[\text{Case: } ]} \rightarrow [\text{Case: DAT}] \quad \text{OBJ}_{[\text{Case: } ]} \rightarrow [\text{Case: ACC}] \quad \text{V-v}_{[\text{ACC}]} \quad T_{[\text{DAT, NOM}]} \\
 \qquad \qquad \downarrow \qquad \qquad \qquad \downarrow \qquad \qquad \downarrow \quad \downarrow \quad \downarrow \\
 \qquad \qquad \phi \qquad \qquad \qquad \phi \qquad \qquad \phi \quad \phi \quad *
 \end{array}$$

When the subject is marked with dative case,  $T_{[\text{DAT, NOM}]}$ , which enters into a Case-valuation relation with the subject, is merged (cf. section 2). With a potential predicate *kake-e-ru* ‘can write’ in (81b), v does not have to carry [ACC]. If v appears without [ACC] in the dative-subject construction, T values the Case features of the two arguments, and all the Case features can be deleted successfully, as illustrated in (86a). On the other hand, if the dative-subject construction does not have an argument whose Case feature is valued as nominative, as in (86b), the derivation crashes, owing to the fact that [NOM] on T remains undeleted without valuing the Case feature of any argument. In short, the dative-subject construction needs to have a nominative argument for the derivation to be legitimate, because T has [NOM] as well as



[DAT]. In the dative-subject construction, since the subject is not marked with nominative case, a nominative argument needs to be included elsewhere in the clause.<sup>21</sup>

The adequacy of the view that the dative subject (whose Case feature is valued by T) yields the nominative-case effect in the dative-subject construction is further confirmed by (87), involving the potential verb *de-rare-ru* ‘can leave’, which takes a source argument.

- (87) a. *Ken ga kono heya {ga/o/kara} de-rare-nakat-ta.*  
 Ken NOM this room {NOM/ACC/ABL} leave-POTEN-NEG-PST  
 ‘Ken could not leave (from) this room.’
- b. *Ken ni wa kono heya {ga/\*o/\*kara} de-rare-nakat-ta.*  
 Ken DAT TOP this room {NOM/ACC/ABL} leave-POTEN-NEG-PST  
 ‘Ken could not leave (from) this room.’

While nominative case on the locative argument can be replaced by accusative *o* or ablative *kara* in (87a), where the subject is marked with nominative case, this replacement is not allowed in (87b), where the subject is marked with dative case. The fact illustrates that when the subject is marked with dative case, T containing [NOM] alongside [DAT] is merged with the clause. In such cases, the nominative-case constraint is imposed, because T needs to enter into a Case-valuation relation with a nominative argument in the clause.<sup>22</sup>

<sup>21</sup> Despite this generalization, dative-subject constructions based on intransitive potential predicates like (i) are fairly acceptable without any nominative arguments (see Shibatani 1978; cf. section 2.1).

(i) *Naze kare ni wa oyog-e-te, ano hito ni wa oyog-e-na-i no daroo?*  
 why he DAT TOP swim-POTEN-GER that man DAT TOP swim-POTEN-NEG-PRS NMLZ will  
 ‘Why is it that he can swim, but that man cannot?’

The potential clauses in (i) are acceptable when the dative-marked subjects are assigned contrastive interpretation. Given that dative marking can often be replaced by a complex postposition like *nitotte* ‘for’ and *nituite* ‘about’, perhaps for the purpose of adding emphasis, as in (ii), I surmise that the *ni* marking on the dative subject could be a postposition.

(ii) *Kare {ni/nitotte/nituite} wa sore ga hituyoo-da.*  
 he {DAT/for/about} TOP that NOM necessary-PRS  
 ‘That is necessary {for/about} him.’

Under this view, it would be plausible to say that in (i), postpositional *ni*, which presumably carries the meaning of ‘as for’, instead of dative *ni*, can be assigned to the subjects, given a contrastive context. Apparently, this type of construction is made available only in limited contexts, but precisely when the special type of *ni* can be used is an open question for further research.

<sup>22</sup> As discussed by Kishimoto (2010), the possibility of subject raising into Spec-TP differs depending on whether subjects are marked with nominative or oblique case; in Japanese, nominative subjects, but not oblique subjects, are raised to Spec-TP. There are a number of ways to confirm this, but a difference can be detected by indeterminate pronoun binding (Kishimoto 2001b, 2013).

What is more, note that the nominative-case constraint does not apply if a non-subject argument is dative-marked, as in (88).

- (88) *John {ga/kara} sensei ni soodan o su-ru.*  
 John {NOM/ABL} teacher DAT consult ACC do-PRS  
 ‘John consults the teacher.’

Example (88) contains a dative-marked indirect object. Notably, in (88), when the subject is marked with ablative *kara*, no nominative argument shows up. Even so, the sentence is fully acceptable. This is due to the fact that the dative case appears on the indirect object argument whose Case feature is valued by the verb rather than T. In (88), since T does not value the Case feature of the indirect object, the inert type of T without [NOM] can be merged, the result of which is that no nominative argument needs to appear in the clause.

In Japanese, simple finite clauses (except for the clauses headed by some meteorological and time-denoting predicates, as in (83)) comprise a nominative argument, because T in unmarked cases appears with the Case feature [NOM]. Nevertheless, oblique-subject clauses which do not comprise any nominative argument can be derived from ordinary clauses by applying syntactic operations, such as oblique *kara* or *de* replacement. This type of derivation is possible because Japanese has a marked option of placing T without [NOM], which does not value the Case feature of a nominative argument. Nevertheless, the nominative-case constraint is forced on the dative-subject construction, i.e. the presence of a nominative argument is required. In the present perspective, this is due to the fact that when T equipped with [DAT] values the Case feature on the subject as dative, it also has the Case feature [NOM].<sup>23</sup> The data considered in this section suggest that the nominative-case constraint is not a general case-marking condition in Japanese, but rather a local one

- 
- (i) *{\*Dare ga/Dare kara} kare ni hanasikake mo si-nakat-ta.*  
 {anyone NOM/anyone from} he DAT speak QU do-NEG-PST  
 ‘No one spoke to him.’

In (i), when the subject is marked with nominative case, it fails to be bound by *mo* attached to the verb, which takes scope over vP. This fact shows that the nominative subject is located in Spec-TP. On the other hand, when the subject bears oblique *kara*, it can be bound by *mo*, indicating that the subject remains in vP without raising to TP. The crucial difference that distinguishes the two types of constructions lies in the presence of a nominative argument, whose Case feature is valued by tense. This fact illustrates that when T values the Case feature on a nominative argument, an EPP feature is assigned to T (see Kishimoto 2010, 2012; Chapter 14 [Koizumi, this volume]). This suggests, in turn, that the possibility of subject raising is conditioned by the property of tense (Kishimoto 2013).

**23** It is sometimes claimed (see e.g. Ura 1999, 2000) that dative case is to be treated as an inherent (i.e. semantic) case marker. This claim implies that T does not enter into an Agree relation with the dative subject, and if so, it falls short of accounting for why the dative subject construction is constrained by the nominative-case constraint. See Chomsky (2001) for a different proposal to the effect that dative case in the dative-subject constructions is a marker of inherent Case with structural Case properties.

that is observed when subjects, but not other arguments, are marked with dative case.

## 5 Perspectives for Future Research

This chapter has shown how case marking is assigned to arguments, which is the sole reliable mechanism of signaling the grammatical relations of arguments in Japanese. The case-marking patterns of basic clauses are largely determined by the properties of the predicates. Nevertheless, non-basic case-marking patterns are observed in some grammatical constructions, including passive, causative, desiderative, and possessor raising constructions, as well as some periphrastic constructions (e.g. the resultative and benefactive constructions). In some complex constructions, case alignments on the arguments are simply changed, but in others, extra arguments are often added by virtue of grammatical operations. This chapter has also looked at the two prominent case-marking constraints constraining clauses in Japanese, i.e. the nominative-case constraint and the double-*o* constraint.

There are a number of remaining issues on case marking that have not been touched upon in this chapter. One such issue has to do with the question of how case-marked arguments are realized in the syntax. In Japanese generative grammar, it is often assumed that semantic case markers have the status of postpositions projecting to PP, whereas syntactic case markers are attached to DPs, without heading their own projections. The hypothesized distinction between DP and PP, which is determined by the kind of particle, is hard to substantiate, however. Miyagawa (1989) advances the claim that the distinction can be made by considering whether a nominal can be associated with a floating numeral quantifier, but Takami (1998, 2001) argues against it. The issue is further compounded by the fact that case markers are more often than not polysemous; some particles (like nominative *ga*) usable as case markers can also be used as conjunctive markers, and even when particles are used to signal grammatical relations, they could be either syntactic or semantic case markers (as in dative/locative *ni*). It still remains to be seen whether we can find any reliable tests that can be used for discerning the exact constituent structures of nominals (i.e. arguments and adjuncts) in Japanese.

Another related issue concerns the morpho-syntactic status of case markers such as *ga*, *o*, and *ni*. One of the earliest analyses on case particles is found in Hattori (1950), where it is claimed that the particles are categorized as clitics, i.e. non-independent free forms. Vance (1993), on the other hand, advances the view that Japanese case particles behave more like words, rather than clitics. Perhaps, a more specific, but cross-linguistically important, issue arises with regard to the dative case marker *ni*. This particle sometimes shows conflicting behaviors. Thus, opinions diverge as to whether it represents a semantic case marker (Ura 1999, 2000) or a syntactic case marker (Kishimoto 2001b, 2013). The divergence in its

behavior might be taken as a sign that no clear division can be drawn between structural and semantic cases (see e.g. Maling 2001). To some extent, this state of affairs is expected, however, because, as observed cross-linguistically, the dative case marker often displays ambivalent behavior (see Butt 2006). Once this persistent problem is resolved, our understanding of dative case, which shows intermediate properties across languages, as well as the nature of case marking in general, will be substantially furthered.

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Yoshihisa Kitagawa

# 13 Interfacing syntax with sounds and meanings

## 1 Introduction

From its inception, generative grammar has been pursued with the working hypothesis that grammar is an abstract form of language stored in our brain. Syntax as part of such knowledge has been assumed to constitute an autonomous component that can be studied independently of other aspects of grammar and the larger cognitive system. While this research strategy has yielded remarkable progress in the field, some serious problems have persisted in the process of its execution in the study of generative syntax. This chapter attempts to depict such problems, give an overview of some solutions offered in the literature and explore some future direction.

One such problem is empirical in nature. Theoretically, it is well-justified to attempt to elucidate our syntactic knowledge based upon the hypothesis that language users' introspection on linguistic expressions can faithfully reflect grammar. In reality, this hypothesis becomes legitimate only when researchers succeed in distilling grammaticality judgments from the language users' acceptability judgments. It, however, is an extremely difficult task to fulfill since neither the language users' actual linguistic performance nor their introspection can escape the influences of extra-syntactic/extra-grammatical factors. In many occasions, in fact, the "idealization" strategy in question with its somewhat distorted application may have created more confusion than clarification in the field.

Taking heed of this familiar but often disregarded warning, a significant number of researchers have argued in recent works that even the study of formal aspects of grammar should be conducted with reference to a wider linguistic context than usually considered. In particular, it has been pointed out and argued that extra-syntactic and extra-grammatical factors such as prosody, pragmatics, and processing have much more pervasive and significant influences on our grammaticality judgments than generally assumed. The issue is complex and delicate, but can be illustrated by a case study of *wh*-interrogative sentences in Japanese, which we will take up and examine in Sections 2 and 3.

The second problem is theoretical in nature. Generative grammar has always placed syntax at the center of its model of grammar as a mediator of sounds and meanings. It is hypothesized that syntax operates on its own, deriving two distinct types of output representations, on which phonology/phonetics and semantics operate respectively and derive sounds and meanings. In such a theoretical framework, a problem arises if any overt syntactic operation takes place solely to achieve some desired effects in pronunciation and/or semantic interpretation. This is one

instance of a problem known as “look-ahead”, which threatens the autonomy of syntax. Another type of problem arises when a clear correlation between sounds and meanings is recognized, but what role syntax plays in their association is disregarded (or at least remains unaccounted for). Since the sound-meaning association is captured without involving syntax, this state of affairs in a sense threatens *raison d’être* of syntax in generative grammar as a mediator of sounds and meanings. We will refer to this problem as “look-across”. Both of these theoretical problems are identified when we recognize the importance of the prosody involved in *wh*-interrogative sentences in Japanese and attempt to incorporate it into our formal syntactic analyses. We will examine the nature of these problems and discuss their possible solutions in the remainder of this chapter.

## 2 Sound-meaning association in *wh*-interrogatives

There is growing concern in the field of Japanese syntax that many important and influential works on the so-called island effects in the past might not have been developed based upon precise empirical observations. In this section, we first summarize the recent development of a research method incorporating prosody into the formal study of syntax. We then describe the problem involved in the Subjacency effects in Japanese in detail and show how the investigation of prosody casts light on this problem. We will then introduce research that attempts to clarify the sources of the confusion involved in the Subjacency problem by appealing to extra-grammatical factors such as pragmatics and sentence processing.

### 2.1 Prosody-scope synchronization

To begin with, it has long been observed in the phonetics literature that *wh*-interrogative sentences in Tokyo Japanese are generally accompanied by a distinctive type of prosody (e.g. Fujisaki and Kawai 1988; Pierrehumbert and Beckman 1988; Kori 1989; Maekawa 1991). For instance, based upon the data from his production and comprehension experiments, Maekawa (1991) reports that Tokyo Japanese speakers crucially rely on the “focus prominence” of the *wh*-phrase itself accompanied by what came to be referred to later as “post-focal reduction” as prosodic cues to indicate the *wh*-interrogative status of a sentence. This Focus Prosody (henceforth *FPd*) assigned to a simplex *wh*-interrogative sentence is illustrated in (1) below and its corresponding pitch-track diagram in Figure 1, which is reproduced from Ishihara (2003: 53) with permission. (All the notations and abbreviations will be clarified shortly below.)

- (1) *Na'oya ga NA'ni o nomi'ya de no'nda no?*  
 Naoya NOM what ACC bar at drank COMP<sub>Wh</sub>  
 'What did Naoya drink at the bar?'

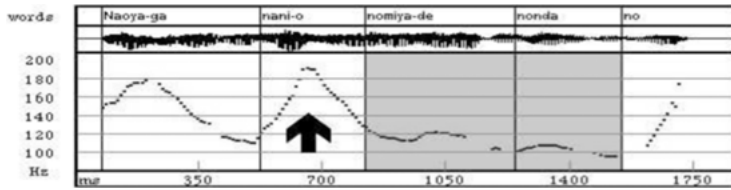


Figure 1: Pitch-track diagram for (1)

Incorporating such groundwork in phonetics into syntax, several researchers have over the past decade converged on the idea that the grammar of Japanese establishes a close association between the semantic scope of a *wh*-interrogative and the domain of focus prosody (Tomioka 1997; Deguchi and Kitagawa 2002; Ishihara 2002; Ishihara 2003; Kitagawa 2005 on Tokyo Japanese and Kubo 1989; Kubo 2001; Smith 2005 on Fukuoka Japanese; among others). For instance, the potentially ambiguous sentence in (2) below can be disambiguated with the two distinct prosodic patterns indicated in (3) and (4) in Tokyo Japanese.<sup>1</sup>

- (2) *Na'oya wa [Ma'ri ga na'ni o nomi'ya de no'nda 'ka]*  
 Naoya TOP Mari NOM what ACC bar at drank COMP<sub>Wthr/Wh</sub>  
*i'mademo obo'eteru 'no?*  
 even.now remember COMP<sub>Wh/Y-N</sub> (Ishihara 2003: 61)

- |  |                                       |
|--|---------------------------------------|
| <b>Wh-focus prominence</b>                                 | <b>Post-COMP rise</b>                 |
| (3) ... [ ... <u>NA'ni</u> o nomi'ya de no'nda <u>ka</u> ] | <i>I'mademo oBO'eteru 'no?</i>        |
| ... what ACC bar at drank COMP <sub>Wh</sub>               | even.now remember COMP <sub>Y/N</sub> |

#### **Post-Focal Reduction**

'Does Naoya still remember [what Mari drank at the bar]?'

- (4) ... [ ... NA'ni o nomi'ya de no'nda ka] *i'mademo obo'eteru 'no?*  
 ... what ACC bar at drank COMP<sub>Wthr</sub> even.now remember COMP<sub>Wh</sub>  
 'What<sub>i</sub> is it that Naoya still remembers [whether Mari drank it<sub>i</sub> at the bar]?'

<sup>1</sup> In glosses of these and other examples, each distinct function of complementizers in Japanese is indicated as COMP<sub>Wh</sub> (*Wh*-scope marker), COMP<sub>Wthr</sub> (a polar-question complementizer), COMP<sub>Y/N</sub> (yes/no question marker) and COMP<sub>That</sub> (declarative complementizer).

The prosodic *wh*-domain typically realized in Tokyo Japanese is indicated on these example sentences as follows: the *wh*-focus is enclosed by a box and its pitch prominence is indicated by bold-face, the pitch-range compression by “post-focal reduction” is indicated by the underlined reduced fonts (up to the associated COMP), and the utterance-final interrogative rise is indicated by a question mark. Where it is relevant, the position of an accent (where a high tone goes down to a low tone) is indicated by an apostrophe (’), and the moras whose high tones do not undergo reduction in the post-focal position are indicated by uppercase letters. This coding scheme will be used throughout this chapter. The crucial difference between the two prosodic patterns here is that, in (3), the focus prosody is terminated at the end of the subordinate CP while in (4), it is extended to the end of the matrix CP. This distinction is detected by the fact that the matrix materials remain unreduced in (3) (as indicated by “Post-COMP rise”) but undergo post-focal reduction within the FPD domain in (4). The former pattern will be referred to as “Local Focus Prosody (Local FPD)” and the latter as “Global Focus Prosody (Global FPD)”. Figure 2 and Figure 3 below are the pitch-track diagrams illustrating the Local FPD in (3) and the Global FPD in (4), respectively, which are cited from Ishihara (2003: 61) with the author’s permission. Note the distinct length of post-focal reduction in the two figures (indicated by ovals) and the post-COMP rise signaling its end in Local FPD (indicated by a square).

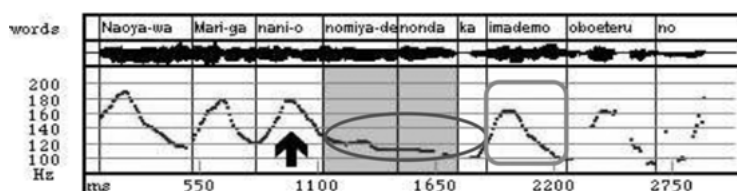


Figure 2: Pitch-track diagram of Local FPD in (3)

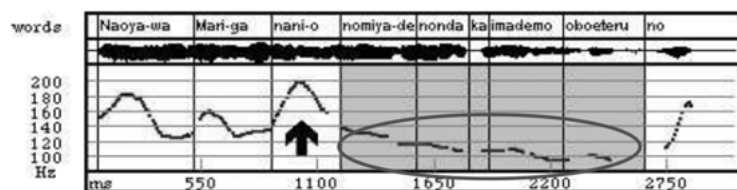


Figure 3: Pitch-track diagram of Global FPD in (4)

Kitagawa and Hirose (2012) also present Figure 4 below, in which the contrast between Local FPD and Global FPD is highlighted by two superimposed pitch-track

<sup>2</sup> One thing the readers must keep in mind in their attempt to reproduce FPD as in these figures based upon the “box-and-underline” notation in our examples is that all instances of the rise to the high tone are being substantially compressed in the post-focal domain, i.e. in the underlined portion.

diagrams. In each diagram, the pitch contours for the matrix *wh*-scope reading (black lines) and the subordinate *wh*-scope reading (grey lines) of the same example sentence (5) are superimposed onto each other (though the exact time is not matched).

- (5) *ana'ta wa [do'no ri'kisi ga ka'tta ka]*  
 you TOP which sumo.wrestler NOM won COMP<sub>Wh/Whether</sub>  
*kininarima'su ka?*  
 curious.about COMP<sub>Wh/Y-N</sub>
- a. Subordinate *wh*-scope reading:  
 'Are you curious which sumo wrestler won?'
- b. Matrix *wh*-scope reading:  
 '[Which sumo wrestler]<sub>1</sub> is it that you are curious whether he<sub>1</sub> won?'

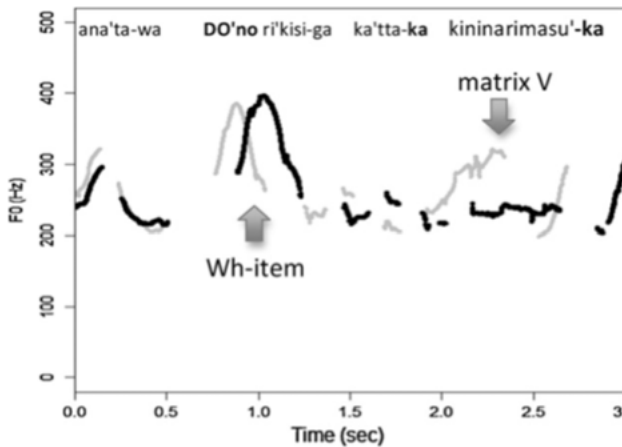


Figure 4: Pitch-track diagrams for (5) (by participant #3 in their production experiment)

The contrast just discussed indicates that prosody plays an important role in physically marking the interpretive domain of *wh*-focus in Tokyo Japanese.<sup>3</sup>

## 2.2 Subjacency effects in Japanese

It is well-known that the acceptability judgments reported for so-called Subjacency effects in Japanese are fuzzy, unstable, and variable. Subjacency violation was first

<sup>3</sup> Such prosody-scope synchronization the grammar establishes, however, may not necessarily be always reflected in linguistic performance. In fact, some Tokyo speakers might find the matrix *wh*-scope interpretation in (4) somewhat difficult to obtain, at least until they identify an appropriate pragmatic context for such an interpretation (e.g. some specific drink is at issue, which Naoya remembers his beloved wife Mari had at a bar during their first date 10 years ago, and the speaker is inquiring about the identity of such a drink). In Section 2.3 below, we will discuss various factors that impose extra-grammatical biases toward the realization of Local FPD and a subordinate *wh*-scope interpretation in potentially ambiguous *wh*-interrogative sentences like (4) above.

reported for English as a type of locality restriction imposed on movement (Chomsky 1973). For instance, it was reported that the *wh*-phrase base-generated as the object of a subordinate *wh*-clause as in (6) below is not permitted to overtly move out of this clause (as a “*wh*-island”) and make up a direct *wh*-question.

- (6) \***What crimes**<sub>1</sub> does the FBI know [<sub>CP</sub> **whether** to solve **t**<sub>1</sub>]?  
 ↑ \_\_\_\_\_ × \_\_\_\_\_

It was long assumed that *wh-in-situ* in languages like Japanese and Chinese do not exhibit Subjacency effects (Kuno 1973; Huang 1982). It became increasingly popular in the 1990s, however, to take the stance that *wh-in-situ* in Japanese in fact obeys the Subjacency Condition as a grammatical constraint although its effect is claimed to be detectable only when *wh*-islands are examined.<sup>4</sup> Nishigauchi (1990) and A. Watanabe (1992) reported, for instance, that a *wh*-phrase located within a *wh*-clause as in (7) below generally cannot take matrix scope (although Nishigauchi admits an exception, to which we will return shortly). The judgments indicated on the example in (7) is from the original source (A. Watanabe 1992: 257, 263).

- (7) (?)~?? *Zyon wa* [<sub>CP</sub> *Mearii ga nani o katta*  
 John TOP Mary NOM what ACC bought  
*kadooka*] *siritagatteiru no?*  
 COMP<sub>Wthr</sub> want.to.know COMP<sub>Wh</sub>  
 ‘\*What does John want to know whether Mary bought?’

Those researchers who detected such interpretive restrictions attempted to assimilate them to the Subjacency violation observed for overt *wh*-movement in English as in (6), postulating some version of “phonetically invisible movement” in the *wh-in-situ* construction. While many interesting theoretical claims about Japanese syntax have been made along the lines of the invisible movement analysis, the syntactic judgments reported for the matrix *wh*-scope interpretation in question are notoriously fuzzy and variable. A. Watanabe (1992: 257, 262), for instance, adds the disclaimer that there is “a subtlety in the judgment” and that its “degree of unacceptability varies among different speakers.” Note, for instance, the ambivalent grammaticality

<sup>4</sup> See also Choe (1984) and Pesetsky (1987), who claim that Subjacency effects are observable even in other types of islands. Throughout this work, we will distinguish the notion of “Subjacency effects” from “the Subjacency Condition”. For us, the former refers to the various degrees of awkwardness language users sense in letting a subordinate in-situ *wh*-phrase take its scope outside an interrogative clause. The latter, in contrast, refers to the grammatical constraint proposed to capture these effects.



judgments indicated for (7) above, suggesting that some accept it without any problem while others find it somewhat awkward (though not completely unacceptable).<sup>5</sup>

When we appeal to the prosody-scope correlation in *wh*-questions observed in Section 2 above, however, we can shed new light on this chaotic situation. As we already pointed out, for many speakers of Tokyo Japanese, a *wh*-phrase located in a subordinate clause is interpretable as a direct *wh*-question when it is assigned *Global Fpd* as in (4) and interpreted in an appropriate pragmatic context in mind. Similarly, for many speakers, (7) permits the matrix scope interpretation of the *wh*-phrase when we assign *Global Fpd* as in (8).

- (8) *Zyon wa [Mearii ga NA'ni o katta 'kadooka]*  
 John TOP Mary NOM what ACC bought COMP<sub>Wthr</sub>  
*siritagat'teiru 'no?*  
 want.to.know COMP<sub>Wh</sub>  
 'What<sub>i</sub> is it that John wants to know [whether Mary bought it<sub>i</sub>]?'

Tomioka (1997), Deguchi and Kitagawa (2002), Ishihara (2003), and Kitagawa (2005) all appeal to this general prosodic property of *wh*-interrogatives in the syntactic investigation of Subjacency effects in Japanese. They maintain that the grammar of Japanese permits both matrix and subordinate *wh*-scope interpretations in a potentially ambiguous sentence like (2) and that there is a one-to-one correspondence between the domain of *wh*-scope and the domain of focus prosody, as indicated in (3) and (4). Kitagawa and Hirose (2012: 618) also report that all seven participants in their production experiment confirmed that they could detect not only subordinate but also matrix *wh*-scope interpretations in thirteen potentially ambiguous stimulus sentences similar to (7), which they were asked to read aloud assigning a prosodic pattern they found to be appropriate for the particular scope interpretation forced by a specific dialogue added as its context. The availability of the matrix *wh*-scope in (4) and (8) to a significant number of speakers demonstrates that *wh*-in-situ in Japanese does not induce a violation of a grammatical condition like the Subjacency Condition even when its scope is extracted out of a *wh*-island.<sup>6</sup>

In order to maintain the Subjacency condition in Japanese, one may attempt to marginalize what was observed above, claiming that the unexpected acceptability of (8) arises only exceptionally due to a peripheral factor that does not belong to grammar. The phenomenon thus resides outside the domain of the explanation of

<sup>5</sup> For instance, Takahashi (1993: 657, footnote 3) regards a matrix *wh*-scope interpretation in a sentence similar to (7) as straightforwardly available.

<sup>6</sup> Hwang (2011) also reports that similar prosody-scope associations are replicated in the *wh*-interrogatives of Tokyo Japanese, Fukuoka Japanese, and Kyeongsang Korean in her production and perception experiments.

generative syntacticians. In this approach, the prosody in (8), for instance, is regarded as an extra-grammatical factor that can *exceptionally repair ungrammaticality* induced by the violation of a syntactic constraint. Nishigauchi (1990: 35), in fact, takes such a position and assumes that the Subjacency Condition can be overridden by “focus-assignment”. In other words, FPD in *wh*-questions, especially *Global FPD*, is regarded as an exceptional extra-grammatical phenomenon which can, quite mysteriously, overturn our grammaticality judgment.

To the contrary, as has been pointed out by various researchers, the assignment of FPD to *wh*-interrogatives is the *norm* rather than an exception in Tokyo Japanese. As we saw, it is assigned not only to matrix *wh*-questions like (8) but also to embedded *wh*-questions like (3) and even to simplex *wh*-questions like (1). Moreover, FPD is a norm even when a *wh*-phrase takes matrix scope *out of a non-island declarative CP*, as in (9).

- (9) *Na'oya wa [Ma'ri ga NA'ni o nomi'ya de no'nda to]*  
 Naoya TOP Mari NOM what ACC bar at drank COMP<sub>That</sub>  
*i'mademo omo'tteru no?*  
 even.now think COMP<sub>Wh</sub>  
 ‘What<sub>1</sub> does Naoya still think that Mari drank t<sub>1</sub> at the bar?’

If, on the other hand, Local FPD is assigned to the same sentence as in (10) below (with the post-focal reduction terminating at the subordinate COMP), the prosody of the entire sentence becomes quite unnatural and its interpretation becomes quite difficult since the *wh*-phrase must now be associated with the declarative complementizer *to* ‘COMP<sub>That</sub>’ within a declarative complement clause. (# on the example indicates that the sentence is unacceptable with the indicated prosody.)

- (10) #*Na'oya wa [Ma'ri ga NA'ni o nomi'ya de no'nda to]*  
 Naoya TOP Mari NOM what ACC bar at drank COMP<sub>That</sub>  
*I'mademo oMO'tteru no?*  
 even.now think COMP<sub>Wh/Y-N</sub>  
 ‘\*Does Naoya still think what<sub>1</sub> Mari drank at the bar t<sub>1</sub>?’

Global FPD, in other words, is required for all scope-extraction, even out of a non-island.<sup>7</sup> It therefore is a mistake to regard FPD as an exceptional intonational pattern that is adopted *only in order to override the Subjacency condition* in cases like (8).

To recapitulate, we have given an overview of the following properties of *wh*-interrogatives in Japanese pointed out in the literature. First, *wh*-interrogative sentences

<sup>7</sup> This observation has been made by Deguchi and Kitagawa (2002: 83) and supported experimentally by Kitagawa and Fodor (2006).

in Tokyo Japanese are generally accompanied by FPd. Second, when a *wh*-sentence is potentially ambiguous in its scope interpretation as in (2), the grammar permits it to be disambiguated by the contrast between Global FPd (for matrix *wh*-scope) and Local FPd (for subordinate *wh*-scope), which are phonetically distinguished (most consistently) by the distinct pitch contours of the post-COMP item in the matrix clause. Thus, Global FPd is a legitimate focus-prosodic pattern for a *wh*-interrogative sentence and should not be regarded as a special “stopgap” measure to override a Subjacency violation (though it is more marked than Local FPd, as will be discussed shortly). Finally, since many speakers find it possible for a *wh*-phrase to take matrix scope from within the *wh*-clause when Global FPd is assigned as in (4) and (8), it becomes difficult to maintain the hypothesis that the so-called “Subjacency effects” in Japanese arise from ungrammaticality. Proposals made in the literature attempting to identify the source of the judgments behind the reported Subjacency effects will be introduced and discussed in the next subsection.

### 2.3 Extra-grammatical biases

Once we start suspecting that the scope interpretations of *wh*-in-situ in Japanese may in fact not be constrained by the Subjacency condition as a grammatical principle, this newly-acquired perspective urges us to ask a distinct kind of question. First, *why* have Subjacency effects involving *wh*-in-situ been reported in the literature on Japanese syntax in the first place? Second, why is the detection of matrix *wh*-scope in question so subtle, unstable, and variable? We now ask, in other words, why is it difficult for the native speakers of Japanese to assign Global FPd to the Subjacency construction and obtain its matrix scope interpretation?

When we attempt to answer these questions, it should be emphasized first that the primary concern of Tomioka (1997), Deguchi and Kitagawa (2002), Ishihara (2003), and Kitagawa (2005) discussed in the previous section was how the *grammar* encodes the correspondence between the domain of focus prosody and that of *wh*-scope. They all reached the conclusion that such a correspondence is induced when a *wh*-focus and a specific COMP come to be associated with each other in a synchronized fashion between PF and LF in the grammar.

Such prosody-scope synchronization as the grammar makes possible, however, may not necessarily be always reflected in linguistic *performance*. Miyamoto and Takahashi (2002), Kitagawa and Fodor (2003), Kitagawa and Fodor (2006), and Kitagawa and Hirose (2012), among others, identified various extra-syntactic and extra-grammatical factors which create bias toward the *subordinate wh*-scope interpretation in scopally-ambiguous sentences, i.e. dispreference of a matrix *wh*-scope interpretation out of a *wh*-island.

First, Kitagawa and Fodor (2003) argued that Global FPd is phonologically more marked than Local FPd, especially when either of the two can be assigned to a

potentially ambiguous sentence as in (2) (repeated below as (11)). One of the prosodic characteristics of FPD is that its post-focal reduction substantially compresses the pitch range (and hence the rise to H tones) in every word appearing in the post-focal domain. This tends to create a long string of rhythmically and tonally undifferentiated material, which is generally dispreferred in natural languages as captured by the “Principle of Rhythmic Alternation” (Selkirk 1984: 12).<sup>8</sup> The contrast between Local and Global FPD in this respect can be clearly observed when we compare, for example, the length of post-focal reduction in (3) and that in (4) (repeated below as (12) and (13)) – the latter is much longer than the former and hence is dispreferred.

- (11) *Na'oya wa [Ma'ri ga na'ni o nomi'ya de no'nda 'ka]*  
 Naoya TOP Mari NOM what ACC bar at drank COMP<sub>Wthr/Wh</sub>  
*i'mademo obo'eteru 'no?*  
 even.now remember COMP<sub>Wh/Y-N</sub>

- (12) ... [ ... NA'ni o nomi'ya de no'nda ka] *I'mademo*  
 ... what ACC bar at drank COMP<sub>Wh</sub> even.now  
*oBO'eteru 'no?*  
 remember COMP<sub>Y/N</sub>  
 ‘Does Naoya still remember [what Mari drank at the bar]?’

- (13) ... [ ... NA'ni o nomi'ya de no'nda ka] *i'mademo*  
 ... what ACC bar at drank COMP<sub>Wthr</sub> even.now  
obo'eteru 'no?  
 remember COMP<sub>Wh</sub>  
 ‘What<sub>i</sub> is it that Naoya still remembers [whether Mari drank it<sub>i</sub> at the bar]?’

Perhaps even more importantly, Kitagawa and Fodor (2006) also argued that this markedness relation is bound to be reflected in the acceptability judgments of *wh*-questions in Japanese on *written* stimuli in accordance with the *Implicit Prosody Hypothesis* (Fodor (2002a)). Based upon the results of psycholinguistic experiments conducted on various linguistic phenomena in various languages, it has been argued by many researchers that language users actually assign a specific prosodic pattern to a sentence in their minds even when they process it by way of silent reading, i.e. even when they do not actually pronounce it aloud. It has also been argued that when more than one prosodic pattern can be assigned to a sentence, readers have a strong tendency to mentally project a *default* prosodic pattern for that

<sup>8</sup> There is an extensive literature documenting this rhythmic principle in a variety of contexts, including stress-split in English compounds (Selkirk 1984: 248–9), accent-split in Japanese compounds, and extra F<sub>0</sub> Boost in Japanese (Kubozono 1993: 51, 59).

construction in their silent reading, which may influence the way they parse the sentence.<sup>9</sup> It then is predicted that when a potentially ambiguous sentence like (11) is read silently, the reader projects Local FPD as the default prosodic contour and will prefer the syntactic analysis corresponding to this implicit prosody. As such, when syntactic judgments are made on *written* examples, as they often are, Local FPD in (12) as a default prosody would create a bias toward subordinate *wh*-scope, causing the matrix *wh*-scope reading to be dispreferred. Kitagawa and Fodor (2006) support this analysis with the results of an experiment investigating participants' incremental parsing of sentences similar to (9), which contain a subordinate *declarative* COMP *to*. They found that the participants accepted such sentences accompanied by *Global* FPD more often when listening to them than when reading them silently. In the latter case, the readers projected Local FPD as a default prosodic contour and forced themselves to syntactically associate the *wh*-in-situ with the *declarative* COMP in the subordinate clause, giving rise to anomaly as in (10).

Second, Kitagawa and Fodor (2003) argue that the bias in question is also at least partly ascribable to the semantico-pragmatic handicap that the dispreferred (matrix) *wh*-scope has. They note that satisfaction of the presuppositions necessary for the matrix *wh*-scope interpretation from within a *wh*-clause tends to require a very specific (and sometimes unusually elaborate) pragmatic context. Such a specific pragmatic context, however, is typically not met in the null discourse context in which sentences are often presented for acceptability judgment. The subordinate scope reading in (12), for instance, would involve the presupposition (or 'epistemic bias') in (14a) below, while the matrix scope reading in (13) would involve the one in (14b) in addition to that in (14a).

- (14) a. There exists some X that Mari drank at the bar.  
       b. Naoya still remembers whether Mari drank X at the bar.

It is not too difficult here to see that the satisfaction of both presuppositions in (14a–b) would require a more elaborated pragmatic context (for example, like the story fabricated in Footnote 3 above) than that of a single presupposition in (14a). It therefore seems reasonable to consider that the interpretation involving matrix *wh*-scope in a potentially ambiguous sentence like (11) is the more marked option of the two available interpretations.

Kitagawa and Fodor (2003) also pointed out that a matrix *wh*-scope interpretation out of a *wh*-island is dispreferred because this scope interpretation would have to be established in defiance of the locality restriction imposed on the processing

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<sup>9</sup> See Bader (1998), Fodor (1998), Fodor (2002a), Hirose (1999), Hirose (2003), Lovric (2003), and Kitagawa, Tamaoka and Tomioka (2013), among others, for the experimental results to support the Implicit Prosody Hypothesis.

of *wh*-in-situ. Locality restrictions in sentence processing in fact have long been discussed in the literature. It has been pointed out, for instance, that in English *wh*-questions involving more than one possible gap position (for *wh*-traces), the parser always prefers to associate the fronted *wh*-phrase (under CP) with the gap that is encountered first. Frazier (1987) proposed the Active Filler Strategy to capture this phenomenon, which was later developed into more generalized processing principles such as de Vincenzi's (1991) Minimal Chain Principle. Extending this line of approach further, Miyamoto and Takahashi (2002) argued that a similar locality effect is observed in Japanese between a *wh*-in-situ and its associated interrogative COMP (COMP<sub>wh</sub>). According to Kitagawa and Fodor (2003), all of these findings can possibly be summarized as generally as the following:

(15) Minimize Dependencies Strategy (in parsing):

Resolve all dependencies as soon as possible (perhaps to reduce strain on working memory).

In the present context, the relevant locality effect occurs between an in-situ *wh*-item and its associated COMP, as argued for by Miyamoto and Takahashi (2002) based upon their experimental results. During the on-line processing of a *wh*-COMP dependency in a sentence like (11), for example, the matrix scope interpretation as in (13) would force language users to skip the closer COMP, thereby disobeying the general parsing strategy in (15). Thus, if such a processing strategy is indeed operative, it would naturally urge them to settle for subordinate *wh*-scope rather than matrix scope, giving rise to the clear markedness asymmetry between the two scope interpretations.

Finally, Kitagawa and Hirose (2012) argued that *speaker-listener asymmetries* in the use of prosodic cues in on-line processing may also make the *wh*-scope extraction out of a *wh*-island somewhat difficult. In their production and comprehension experiments, they observed that all *speakers* made use of *the pitch of the post-COMP item* in encoding *wh*-scope more consistently than the pitch of the *wh*-item. The majority of *listeners*, on the other hand, relied more heavily on *the pitch of the wh-item* in decoding *wh*-scope. In other words, listeners can be sensitive to prosodic cues that are less critical to speakers. Moreover, while listeners relied on *both wh-items and post-COMP items* in detecting the *subordinate wh*-scope interpretation, they relied *solely* on the pitch of the *wh-item* in detecting the *matrix wh*-scope interpretation. This suggests that the association of matrix *wh*-scope and high pitch on a *wh*-item in comprehension would involve a somewhat special mental activity. This observation is quite compatible with the view presented above that the scope extraction out of a *wh*-island is multiply discouraged by prosodic, semantico-pragmatic, and processing factors and hence is hard to obtain.

If all such extra-syntactic and extra-grammatical factors conspire to create a discomfort with the matrix scope reading for the *wh*-phrase located in a *wh*-clause,

language users attempting to comprehend the sentence like (7), whether listening or reading, must be inclined to settle for the subordinate *wh*-scope interpretation accompanied by *Local FPD* as in (16) below, in which the FPD is terminated at the end of the subordinate clause (as indicated by the retention of the high tones in *siRITAGA'tteiru* 'wants to know').

- (16) #*Zyon wa [Mearii ga NA'ni o katta 'kadooka]*  
       John TOP Mary NOM what ACC bought COMP<sub>Wthr</sub>  
       *siRITAGA'tteiru no?*  
       want.to.know COMP<sub>Y/N</sub>  
       'Does John want to know [whether Mary bought what]?'

Under this analysis, the sentence now is clearly unacceptable. The *wh*-phrase *NA'ni o* 'what ACC' is urged to be associated with the subordinate COMP *-kadooka* 'whether or not', but for most speakers of Japanese, *-kadooka* cannot be associated with a *wh*-phrase.<sup>10</sup> This causes clear discomfort, thereby inducing the acceptability judgment that can be easily mistaken as ungrammaticality arising from a Subjacency violation

It obviously is impossible to entirely eliminate all of the handicaps for the matrix *wh*-scope interpretation out of a *wh*-island discussed above. We can, however, at least reduce them and make such an interpretation reasonably acceptable when we assign proper FPD to a sentence, either explicitly or implicitly, with clear *wh*-focus prominence and post-focal reduction and interpret the sentence in an appropriate pragmatic context.

### 3 Further empirical implications

Many other conundrums have been discussed and many interesting and influential theoretical proposals have been made in the literature concerning the interpretive restrictions imposed on the *wh*-interrogatives in Japanese. In this section, we will re-examine some of those cases from the new perspective introduced in the previous section.

#### 3.1 Additional *wh*-effects

A. Watanabe (1992: 263) reports a contrast in the acceptability judgments indicated in (17) below, which is often referred to as "additional-*wh* effects" in the literature.

<sup>10</sup> There apparently are some speakers who can interpret *-kadooka* as COMP<sub>Wthr</sub>, and for those speakers, (16) is acceptable as a yes/no question embedding an indirect *wh*-question.

The indicated acceptability judgments are from the original source, and they are declared to have been adjusted to “the judgment of the relevant speakers” (p. 262).

- (17) a. ??*Zyon wa* [<sub>CP</sub> *Mearii ga nani o katta*  
 John TOP Mary NOM what ACC bought  
*kadooka*] *Tomu ni tazuneta no?*  
 COMP<sub>wthr</sub> Tom DAT asked COMP<sub>wh</sub>  
 ‘What<sub>i</sub> is it that John asked Tom whether Mary bought it<sub>i</sub>?’
- b. *Zyon wa* [<sub>CP</sub> *Mearii ga nani o katta*  
 John TOP Mary NOM what ACC bought  
*kadooka*] *dare ni tazuneta no?*  
 COMP<sub>wthr</sub> who DAT asked COMP<sub>wh</sub>  
 ‘Who did John ask whether Mary bought what?’
- c. ??*Zyon wa* [<sub>CP</sub> *dare ga nani o katta kadooka*]  
 John TOP who NOM what ACC bought COMP<sub>wthr</sub>  
*Tom ni tazuneta no?*  
 Tom DAT asked COMP<sub>wh</sub>  
 ‘Who<sub>i</sub> is it that John asked Tom whether he<sub>i</sub> bought what?’

First, it was reported that the familiar Subjacency violation allegedly detected in (17a) is obviated in (17b) when an additional *wh*-phrase (*dare ni* ‘who DAT’) is introduced in the matrix. Second, it was also reported that when a similar additional *wh*-phrase (*dare ga* ‘who NOM’) is introduced within a *wh*-island as in (17c), it allegedly fails to obviate the Subjacency effect.

When we pay close attention to the prosody in *wh*-questions, we can provide a new angle from which we can examine this paradigm. First, Deguchi and Kitagawa (2002) pointed out that multiple *wh*-questions in Japanese exhibit their prosody-scope correlation in a very specific way. Prosodically, they are accompanied by “Compound FPD”, in which more than one FPD is combined and terminated at the same COMP<sub>wh</sub>, as shown in (18a) below. Semantically, the multiple *wh*-phrases are interpreted as “paired (or set) *wh*-questions” with their scope synchronized.

To begin with, Compound FPD seems necessary in order to interpret multiple *wh*-questions properly, as can be seen from the contrast between (18a) and (18b) (Kitagawa 2006b).

- (18) a. DA're *ga asokode* NA'mi *o katta 'no?*  
 who NOM there what ACC bought COMP<sub>wh</sub>  
 ‘Who bought what there?’



- b. # DA're ga asokode na'ni o katta 'no?  
 who NOM there what ACC bought COMP<sub>Wh</sub>

When Compound FPD is assigned as in (18a), the prosody is natural, each of the *wh*-phrases receiving focus prominence and followed by post-focal reduction in contrast to (18b), in which only one of the *wh*-phrases receives focus prominence and the interpretation of the sentence remains obscure. While we can answer (18a) by providing either single paired answers (e.g. *John bought an umbrella there*) or multiple paired answers (e.g. *John bought an umbrella and Bill bought a raincoat there*), (18b) would remain unanswerable since the unfocused *wh*-phrase *nani o* 'what ACC' seems to remain uninterpretable.<sup>11</sup>

Compound FPD can apply either locally or globally and induce subordinate or matrix scope of paired *wh*-questions accordingly, as in (19a) and (19b–c), respectively. Note that matrix scope of paired *wh*-questions is possible whether the second *wh*-phrase is outside the subordinate clause as in (19b) or inside that clause as in (19c).

- (19) a. *Keisatu wa [ano ban DA're ga DA're to a'tteita ka]*  
 police TOP that night who NOM who with seeing COMP<sub>Wh</sub>  
*miNNA' ni tazuneta no?*  
 everyone DAT asked COMP<sub>V/N</sub>  
 'Did the police ask everyone who was seeing whom that night?'  
 b. *Keisatu wa [ano ban Mearii ga DA're to a'tteita ka]*  
 police TOP that night Mary NOM who with seeing COMP<sub>Wthr</sub>  
*DA're* ni tazuneta no?  
 who DAT asked COMP<sub>Wh</sub>  
 'Whom did the police ask whether Mary was seeing whom that night?'

<sup>11</sup> The only case in which the "simplex" FPD as in (18b) may become acceptable is an echo question like (i-B) or (i-B') below uttered as a response to the question (i-A).

- (i) A: *Zyon wa asoko-de nani o katta no?*  
 John TOP there what ACC bought COMP<sub>Wh</sub>  
 'What did John buy there?'  
 B: E? *DA're ga/wa asokode na'ni o katta 'ka tte?*  
 Huh who NOM/TOP there what ACC bought COMP<sub>Wh</sub> COMP<sub>That</sub>  
 'Huh? What did **WHO** buy there?'  
 B': %E? *DA're ga/wa na'ni o katta 'no?*  
 COMP<sub>Wh</sub>

- c. *Keisatu wa [ano ban DA're ga DA're to a'tteita ka]*  
 police TOP that night who NOM who with seeing COMP<sub>Wthr</sub>  
*kimi ni taze'neta no?*  
 you DAT asked COMP<sub>Wh</sub>  
 'Who<sub>1</sub> is it that the police asked you whether he<sub>1</sub> was seeing whom  
 that night?'

Thus, the sentence in (19a) is interpreted as a yes-no question embedding paired *wh*-questions and answered, for example, as in (20a) below. (19 b–c), on the other hand, are interpreted as *matrix* paired *wh*-questions and the identity of both *wh*-phrases must be provided in the answers, for example, as in (20 b–c), respectively.

- (20) a. *Soo. [dare ga dare to atteitta ka] zen-in*  
 yes who NOM who with seeing COMP<sub>Wthr</sub> everyone  
*ga tazuneraretano.*  
 NOM was.asked  
 'Yes. They asked everyone who was seeing whom that night.'
- b. *Kanozoyo ga Zyon to atteitta ka(dooka) Biru ni tazuneta-mitai.*  
 she NOM John with seeing COMP<sub>Wthr</sub> Bill DAT asked-seem  
 'They seem to have asked Bill whether she (= Mary) was seeing John.'
- c. *Mearii ga Zyon to atteitta ka(dooka) tazuneraretandayone.*  
 Mary NOM John with seeing COMP<sub>Wthr</sub> was.asked  
 'I was asked whether Mary was seeing John that night.'

Returning now to the “additional *wh*-effect” paradigm (17), let us assign “Global” FPDs – simplex FPD as in (21a) below and Compound FPD as in (21b–c) – and attempt to interpret the multiple *wh*-questions there accordingly.

- (21) a. *Zyon wa [CP Mearii ga NA'ni o katta 'kadooka]*  
 John TOP May NOM what ACC bought COMP<sub>Wthr</sub>  
*To'mu ni taze'neta no?*  
 Tom DAT asked COMP<sub>Wh</sub>  
 'What<sub>1</sub> is it that John asked Tom whether Mary bought it<sub>1</sub>?'

 b. *Zyon wa [CP Mearii ga NA'ni o katta 'kadooka]*  
 John TOP Mary NOM what ACC bought COMP<sub>Wthr</sub>  
*DA're ni tazuneta no?*  
 who DAT asked COMP<sub>Wh</sub>  
 'Who did John ask whether Mary bought what?'

- c. *Zyon wa* [<sub>CP</sub> *DA're* *ga* *NA'ni* *o* *katta* *'kadooka*]  
 John TOP who NOM what ACC bought COMP<sub>Wthr</sub>  
*To'mu ni tazuneta no?*  
 Tom DAT asked COMP<sub>Wh</sub>  
 'Who<sub>1</sub> is it that John asked Tom whether he<sub>1</sub> bought what?'

As we have already confirmed with (13), a sentence like (21a) does not exhibit a Subjacency effect to begin with and is legitimately interpreted as a matrix *wh*-question, as long as it is accompanied by Global FPd. Similarly, multiple *wh*-questions accompanied by Global Compound FPd as in (21b–c) can be interpreted as “paired” *wh*-questions in the matrix clause regardless of whether one or both of the *wh*-phrases are located within a *wh*-island. Note that multiple *wh*-questions in (21b–c) are completely parallel to those in (19b–c) in construction. The alleged Subjacency violation, in other words, does not arise even when the “additional *wh*-phrase” is located within the *wh*-island as in (21c).

When the sentence in (21c) is accompanied by *Local* Compound FPd as in (22) below, on the other hand, the sentence becomes uninterpretable.

- (22) #*Zyon wa* [<sub>CP</sub> *DA're* *ga* *NA'ni* *o* *katta* *'kadooka*]  
 John TOP who NOM what ACC bought COMP<sub>Wthr</sub>  
*TO'mu ni tazuneta no?*  
 Tom DAT asked COMP<sub>Wh</sub>  
 'Did John ask Tom whether who bought what?'

Presumably, the problem involved here is exactly the same as that observed in (16), the alleged case of a Subjacency violation we re-examined with *Local* FPd assigned in the previous subsection. In fact, the presence of an “additional *wh*-phrase” in the matrix clause does not permit *wh*-scope extraction out of a subordinate clause if *Local* FPd is assigned in the subordinate clause in addition to the Global FPd in the matrix, as in (23) below. Note the post-COMP rise in *ZYO'n* ‘John’, which indicates the termination of *Local* FPd at the subordinate COMP.

- (23) [*Mearii ga* *NA'ni* *o* *katta* *'ka*] *ZYO'n wa*  
 Mary NOM what ACC bought COMP<sub>Wh</sub> John TOP  
*DA're* *ni tazuneta no?*  
 who DAT asked COMP<sub>Wh</sub>  
 'Whom did John ask [what<sub>1</sub> Mary bought t<sub>1</sub>]?'

Since the sentence in (23) is accompanied by two “simplex” FPds rather than Compound FPd, the two *wh*-phrases are not required to take synchronized scope.

In short, as long as the sentences in the “additional *wh*-effect” paradigm in (17) are accompanied by appropriate prosody, they do not yield the alleged “Subjacency” contrasts, whether or not an “additional *wh*-phrase” appears and also wherever it may appear in the sentence. This suggests that the “additional-*wh* effect” in Japanese in fact may not be a grammatical phenomenon.

### 3.2 Adjunct scope extraction

Attention to prosody and semantics/pragmatics also provides us with a fresh and useful viewpoint on other types of interpretive restrictions observed on adjunct *wh*-phrases. Island effects as in (24)–(26) below, for example, have been reported by Huang (1982) on *weisheme* ‘why’ in Chinese and by Lasnik and Saito (1984) on *naze* ‘why’ in Japanese. The examples and their judgments are from Saito (1994: 204–205).

(24) Complex NP Island:

\**Zyon wa* [<sub>NP</sub> [<sub>IP</sub> *sono hon o naze katta*] *hito*] *o*  
 John TOP that book ACC why bought person ACC  
*sagasiteru no?*  
 looking.for COMP<sub>Wh</sub>  
 ‘Why<sub>1</sub> is John looking for [the *person* who bought that book *t*<sub>1</sub>]?’

(25) Adjunct Island:

\**Zyon wa* [<sub>CP</sub> *Mearii ga sono hon o naze katta*  
 John TOP Mary NOM that book ACC why bought  
*kara*] *okotteru no?*  
 since angry COMP<sub>Wh</sub>  
 ‘Why<sub>1</sub> is John angry [*because* Mary bought that book *t*<sub>1</sub>]?’

(26) Wh-island:

\**Kimi wa* [<sub>CP</sub> *Mearii ga naze sono hon o katta kadooka*]  
 you TOP Mary NOM why that book ACC bought COMP<sub>Wh</sub>  
*siritai no?*  
 want.to.know COMP<sub>Wh</sub>  
 ‘Why<sub>1</sub> do you want to know [*whether* Mary bought that book *t*<sub>1</sub>]?’

The alleged ungrammaticality in these and similar examples has been assimilated to that in English observed in (27).

(27) \***Why**<sub>2</sub> do [<sub>IP</sub> you wonder [<sub>CP</sub> **what**<sub>1</sub> [<sub>IP</sub> John bought *t*<sub>1</sub> *t*<sub>2</sub>]]]?<sup>12</sup>

<sup>12</sup> *Why* in this sentence is to be interpreted in the subordinate clause, i.e. as “why John bought” not “why you wonder”.

With the assumption that *wh*-in-situ undergoes covert movement at LF, it is claimed that the trace of *naze* ‘why’ extracted out of a *wh*-island in (24)–(26) violates the Empty Category Principle (ECP) (Chomsky 1981), failing to be properly governed (i.e. not bound by its antecedent within the island or  $\theta$ -marked by any syntactic head).

Although Saito (1994: 234, footnote 16) considers that examples like (24)–(26) are straightforwardly and uniformly rejected by virtually every Japanese speaker as ungrammatical, Kitagawa (2006a) argues that this is not the whole picture, especially when we control the prosody and pragmatic contexts of the sentences. Just as in the Subjacency examples discussed in Section 2.3 above, the semantics/pragmatics involved in the scope extraction out of an island are rather complex and require somewhat elaborate, specific types of pragmatic contexts, which are typically not provided in a null discourse context. When the embedded *wh*-phrase questions about ‘reasons’ as in (24)–(26), the situation even worsens, as described in (28) below.

- (28) a. (24): The speaker believes there is some specific reason such that John is looking for the person who bought the book for it (= that reason), and wants the hearer to identify the reason for which this is true.
- b. (25): The speaker believes there is some specific reason such that John is angry because Mary bought the book for it (= that reason), and wants the hearer to identify the reason for which this is true.
- c. (26): The speaker believes there is some specific reason such that the hearer wants to know if Mary bought the book for it (= that reason), and wants the hearer to identify the reason for which this is true.

The readers should try to imagine an appropriate pragmatic context for each case and feel how difficult a task it is. Among the three, the cases involving a complex NP island and a *wh*-island are especially hard, which seems to be reflected in the difficulty of their intended interpretations. The speaker’s presupposition of the existence of some specific reason worthy of note in each case perhaps is one of the main culprits of the difficulty, since a *wh*-phrase seeking to identify a reason, especially with the use of *naze*, is usually asked without such a specific presupposition involved.

Though not an easy task, we can manage to improve similar *wh*-questions significantly by enriching the pragmatic context and adding appropriate prosody, i.e. Global FPD, as in (29)–(31).

- (29) Complex NP island:

[*Maitosi nannin-mono sensyu ga puro-yakyuu-kai o satte-ikimasuga,*]

‘Every year, numbers of players leave professional baseball,’

[<sub>NP</sub> [<sub>IP</sub> NA'ze *yameteiku*] se'nsyu] *ga* *itiban-o'oi* ka  
 why quit player NOM most COMP<sub>Wh</sub>

*siTTEMA'su ka? Kega desuyo, kega.*

do.you.know COMP<sub>Y-N</sub> injury it.is injury

'Do you know for what reason the number of the players who quit professional baseball for that reason is the largest? It is injury!'

(30) Adjunct island:

[*Mondai wa nani o sita ka zyanakute naze sore o sita ka nandayo.*]

'What is important is not what you did but why you did it.'

[<sub>CP</sub> *Omae ga* NA'ze *sonna koto o sita 'kara*] *oyazi ga*  
 you NOM why such thing ACC did since Dad NOM

*annnani oko'tta ka oMAE NI 'wa wakaruru ka?*

that.much angry COMP<sub>Wh</sub> you DAT TOP understand COMP<sub>Y-N</sub>

'Do you understand for what reason your dad is that much angry because you did such a thing for that reason?'

(31) *Wh*-island:

[Context: A law professor lecturing on court cases says:

*Ippan-teki ni saiban de wa kagaisya ga naze tumi o okasitesimattano ka ga totemo zyuuyoona pointo ni narimasu ga, sono saiban no syurui niyotte donoyoona dooki ga zyuuyoosi-sareru ka wa matimati desu. Tatoeba, keizi saiban de wa ...]*

'Generally speaking, in any trial, why the assailant committed a crime becomes a very important point, though what kind of motive is considered to be the most important differs depending on the type of the trial. For instance, in criminal cases, ...'

<The lecture on criminal cases continues for a while ... >

*Dewa, minzi-saiban de wa* [<sub>CP</sub> *kagaisya ga*  
 then civil-case in TOP defendant NOM

NA'ze *tu'mi o oka'sitesimatta 'ka*] *ga mottomo*  
 why crime ACC committed COMP<sub>Wthr</sub> NOM most

*zyuuyo'osi-sareru 'ka to iIMA'suto ...*

viewed.important COMP<sub>Wh</sub> that if.I.say

'Then, what reason is regarded as most important if the defendant committed a crime for that reason? I would say ...'

Among over 40 speakers to whom these sentences were presented, the most popular reaction was that (30) is most naturally and immediately acceptable while interpreting (29) and (31) requires some pondering. There were some speakers, though, who remain uncomfortable with the use of *naze* in all of these contexts and would prefer to use an alternative adjunct expression *doo-yuu riyuu de* ‘for what kind of reason’ instead. It probably is true that *doo-yuu riyuu de* more perfectly and easily fits the presuppositions involved in these contexts as described in (28) than *naze*. Probably, some additional pragmatic factor that we do not understand fully at this point is in effect here. Nonetheless, it is important that many speakers come to accept at least some of the sentences that are alleged to involve an ECP violation. While full-fledged discussion on ECP goes beyond the scope of this work, these observations suggest that some serious re-examination of the factual bases of the past studies on this topic would be advisable.

### 3.3 Rigidity/Anti-superiority effects

Saito (1982) also reports a contrast as in (32) below concerning the use of *naze* in multiple *wh*-questions. (The examples and indicated acceptability judgments are from Saito (1994: 195). As seems to have been the case in the literature, we pay attention solely to multiple-pair (or pair-list) interpretations for the time being.)

- (32) a. *Zyon wa nani o naze katta no?*  
       John TOP what ACC why bought COMP<sub>wh</sub>  
       ‘What did John buy for what reason?’
- b. \**Zyon-wa naze nani o katta no?*  
           why what ACC  
       ‘For what reason did John buy what?’

Saito (1982) and A. Watanabe (1992) both consider the alleged ungrammaticality in (32b) to arise from an ECP violation induced by some theorematic condition – “rigidity condition” in Saito’s approach and “anti-superiority” in A. Watanabe’s. Both conditions have the effect of requiring the c-command relation between the two *wh*-phrases to be inherited from overt syntax to covert syntax, and this eventually disallows the LF-trace of *naze* from being antecedent-governed in (32b). The judgment reported here, however, has been acknowledged to be varied and unstable, which is often referred to as “idiolectal variation”. For instance, Saito (1994: 233, footnote 1) states “There seem to be equally many people who accept examples like (1b) and (2b) [= examples like (32b) above]. I will basically ignore this idiolect in the discussion in the text but will come back to it from time to time in footnotes, simply

to show that its existence does not necessarily affect the main conclusions of this paper.”<sup>13</sup>

One thing we immediately notice when we try to interpret these sentences is that it is rather difficult to imagine a pragmatic context in which (32b) is felicitously interpreted compared to (32a). As pointed out by Kuno (1982), the interpretation of multiple *wh*-questions is required to reflect their relative hierarchical order in a sentence in such a way that the information denoted by a lower *wh*-phrase is sorted out in accordance with that denoted by a higher *wh*-phrase functioning as the “sorting key”. Perhaps as Kuno and Takami (1993: 115–118) and S. Watanabe (2000) point out, speakers detect awkwardness in a multiple *wh*-question like (32b) when they have difficulty imagining a situation in which purchased items are sorted out on the basis of the reasons for which they were purchased. When such difficulty is overcome and *naze* can be interpreted as a “sorting key” naturally, the sentence becomes interpretable much more easily, for instance as in (33) below, especially when it is appropriately accompanied by Compound FPD.

- (33) *Itiryuuno kyattyaa wa siiai-no-naka-de*  
 first.rate catcher TOP in.the.game  

<i>NA'ze</i>	<i>DO'noyoona</i>	<i>tama</i>	<i>o</i>	<i>yookyuusita</i>	<i>ka</i>
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 why what.kind.of ball ACC required COMP<sub>wh</sub>  
*SU'bete kioku-siteiru-monodesu.*  
 all remember  
 ‘A first-rate catcher would remember why he required the pitcher to throw what ball for every pitch in the game.’

Note that a sensible catcher in the baseball does often think of the hitter’s weakness and then determines what type of ball he should require the pitcher to throw. In this context, a reason can be naturally regarded as a sorting key for a type of ball. With such careful control of pragmatics and prosody, the sentence becomes straightforwardly acceptable to many speakers including those who find some contrast between the two sentences in (32), which suggests that we are dealing with something more than mere idiolectal variation.

As the following examples indicate, *naze* can also appear comfortably in a position higher than another *wh*-phrase when multiple *wh*-questions can exhibit a clear single-pair interpretation:

<sup>13</sup> For example, Takahashi (1993: 666, footnote 8) apparently finds no problem with an example involving the same hierarchical order between *naze* ‘why’ and *nani* ‘what’. On the other hand, some speakers apparently find even (32a) somewhat difficult to interpret. For instance, A. Watanabe (1992: 266) adds one question mark to a sentence similar to (32a).



- (34) [A conversation at the CIA: *Kinoo siryoositu kara issyun no suki o tuite nanika o nusumooto siteita KGB no supai o tukamaeta soodana.*]

‘I heard that we captured a spy from KGB yesterday, who tried to steal something from our record room in a very brief unattended moment.’

*Soitu ga NA'ze NA'ni o nusumoo-to-siteita ka*  
 that.brat NOM why what ACC tried.to.steal COMP<sub>Wh</sub>  
*goOMON-NI-KA'kete hakasero.*  
 torture.and make.confess  
 ‘Torture him and make him confess why he was stealing what.’

- (35) [In a detective story, a detective says:]

*Mondai wa (ittai)*  
 question TOP what.on.earth  
*NA'ze DA're ga kono heya ni sinobikomu hituyoo ga*  
 why who NOM this room into sneak.in need NOM  
*attano ka toYUU-KOTO'-desu.*  
 existed COMP<sub>Wh</sub> it.is.the.fact.that  
 ‘The question is for what reason who needed to sneak into this room.’

Thus, we should consider that the pragmatic restriction in question is imposed not just on “sorting keys” for multiple-pair interpretations but on the “anchor” information denoted by the first *wh*-phrase on which the interpretation of the second *wh*-phrase is contingent in single-pair readings of multiple *wh*-questions (Kitagawa, Roehrs and Tomioka 2004).<sup>14</sup> Again, these observations suggest that some serious re-examination of the factual bases of the past work on the anti-superiority/rigidity effects would be advisable. We should especially investigate the nature of idiolectal variation in grammaticality judgment allegedly involved in this phenomenon.<sup>15</sup>

### 3.4 Higher *wh*-effects by LF-adjunction

Saito (1994: 204–206) offers an alternative account of the rigidity effects, extending the observations to island effects. He reports a contrast between a pair of sentences as in (36)–(38). (The indicated acceptability judgments are from the original source.)

<sup>14</sup> When a multiple-pair interpretation is intended, it is somewhat difficult to try to interpret *naze* even in a position lower than another *wh*-phrase as the “sorted” (rather than “sorting”) information. A. Watanabe’s (1992) question mark on (32a) possibly reflects this tendency.

<sup>15</sup> Variation in fact may arise in the way speakers associate sentences with pragmatic contexts rather than in grammar per se. That is, some speakers may attempt to imagine some specific and suitable pragmatic context for a sentence quite thoroughly before pinning down their acceptability judgments while others do not.

## (36) Complex NP Island:

- a. \**Zyon wa* [<sub>NP</sub> [<sub>IP</sub> *naze nani o katta*] *hito*] *o*  
 John TOP why what ACC bought person ACC  
*sagasideiru no?*  
 looking.for COMP<sub>Wh</sub>  
 'What<sub>1</sub> is the reason John is looking for [the *person* that bought what for that reason<sub>1</sub>]?'

 b. ??*Zyon wa* [<sub>NP</sub> [<sub>IP</sub> *nani o naze katta*] *hito*]  
 John TOP what ACC why bought person  
*o sagasideiru no?*  
 ACC looking.for COMP<sub>Wh</sub>  
 'What<sub>1</sub> is it that John is looking for [the *person* that bought it<sub>1</sub> for what reason<sub>1</sub>]?'

## (37) Adjunct Island:

- a. \**Zyon wa* [<sub>CP</sub> *Mearii ga naze nani o katta*] *kara*  
 John TOP Mary NOM why what ACC bought since  
*okotteiru no?*  
 angry COMP<sub>Wh</sub>  
 'What<sub>1</sub> is the reason John is angry [*because* Mary bought what for that reason<sub>1</sub>]?'

 b. ?*Zyon wa* [<sub>CP</sub> *Mearii ga nani o naze katta*] *kara*  
 John TOP Mary NOM what ACC why bought since  
*okotteiru no?*  
 angry COMP<sub>Wh</sub>  
 'What<sub>1</sub> is it that John is angry [*because* Mary bought it<sub>1</sub> for what reason<sub>1</sub>]?'

(38) *Wh*-island:

- a. \**Kimi wa* [<sub>CP</sub> *naze dare ga sono hon o katta*  
 you TOP why who NOM that book ACC bought  
*kadooka*] *siritai no?*  
 COMP<sub>Whthr</sub> want.to.know COMP<sub>Wh</sub>  
 'What<sub>1</sub> is the reason you want to know [*whether* who bought that book for that reason<sub>1</sub>]?'

- b. ??*Kimi wa* [<sub>CP</sub> *dare ga naze sono hon o katta*  
 you TOP who NOM why that book ACC bought  
*kadooka*] *siritai no?*  
 COMP<sub>Wthr</sub> want.to.know COMP<sub>Wh</sub>  
 ‘Who<sub>1</sub> is it that you want to know [*whether* (s)he<sub>1</sub> bought that book for  
 what reason]?’

Here, the island effects in (36a), (37a), and (38a) are considered to arise when *naze* ‘why’ is extracted out of an island and its trace induces a (rigidity-induced) ECP violation. On the other hand, a similar sentence in each of (36b), (37b), and (38b) escapes this problem because another *wh*-phrase appears in a position higher than *naze*. To account for this “higher-*wh* effect”, Saito (1994: 206–207) proposes an analysis in which *naze* in a lower position as in (36b), (37b), and (38b) adjoins *nani/dare* in a higher position at LF and derives a complex *wh*-phrase of the form “[<sub>NP</sub>[<sub>Adv P</sub> *naze*][<sub>NP</sub> {*nani/dare*}]]”. *Naze* then gets a free ride to Spec-CP when the derived complex *wh*-phrase is extracted out of an island, leaving behind the trace of the *wh*-cluster as a whole. Since what is left behind by this LF-movement is an argument trace rather than an adjunct trace, the ECP is not violated. Similar LF-movement in (38a), on the other hand, would leave an adjunct trace of “[<sub>Adv P</sub> [<sub>NP</sub> {*nani/dare*}][<sub>Adv P</sub> *naze*]]” within the *wh*-island, which would violate the ECP. This account makes it unnecessary to postulate the rigidity condition.

Note, however, that the contrast reported on each pair of sentences in (36)–(38) also involves the pragmatic issue discussed on the rigidity paradigm in (32). That is, (36a), (37a), and (38a) are pragmatically handicapped because *naze* as a higher *wh*-phrase must be interpreted as the “anchor” for the lower *wh*-phrase in these sentences. The situation in fact is even more complicated because the multiple *wh*-questions in these sentences are located within an island – a complex NP, an adjunct CP, and an interrogative CP, respectively. Roughly, (36a), (37a), and (38a) involve complex semantico-pragmatic interpretations as summarized in (39a–c).

- (39) a. (36a): The speaker presupposes the existence of a specific reason-object pair such that John is looking for the person who bought that object for that reason, and the speaker wants the hearer to identify this reason-object pair, where the identity of the object is contingent on the reason.
- b. (37a): The speaker presupposes the existence of a specific reason-object pair such that John is angry because Mary bought that object for that reason, and the speaker wants the hearer to identify this reason-object pair, where the identity of the object is contingent on the reason.

- c. (38a): The speaker presupposes the existence of a specific reason-person pair such that the hearer wants to know if the book was purchased by that person for that reason, and the speaker wants the hearer to identify this reason-person pair, where the identity of the person is contingent on the reason.

Since (36a), (37a), and (38a) all require quite elaborate, specific types of pragmatic contexts, their interpretation is naturally difficult and low acceptability is liable to arise when they are presented in a null discourse context. On the other hand, (36b), (37b), and (38b) are somewhat easier to interpret since the interpretation of *naze* in these sentences is contingent on that of an entity-denoting *wh*-phrase (*nani* ‘what’ or *dare* ‘who’) as the anchor, which is pragmatically much more common than the reverse (i.e. assigning identity from reason to object).

Again, it is not an easy task to overcome such heavy handicaps, but we can improve sentences similar to (36a), (38a), and (38a) by appropriately controlling pragmatics and assigning Compound FPD, as in (40)–(42). (See also (35), which is similar to (40) in construction.)

(40) Complex NP island:

[A sports broadcaster interviewing the catcher of a winning baseball club says:]

*Kyoo-no-siai-no-naka-de* [<sub>NP</sub> [<sub>IP</sub> *pittya* *ni* *NA'ze* *DO'noyoona* ]]  
 today's-game.in pitcher DAT why what  
*tama* *o* *yookyuusita* *daseki* *ga* *itiban-no* *pointo-desita* *ka?*  
 ball ACC required at.bat NOM biggest point-was COMP<sub>wh</sub>  
 ‘What reason was such that [<sub>NP</sub> the at-bat you required the pitcher to throw  
 what kind of ball for that reason] was the biggest point of today's game?’

(41) Adjunct island:

[At the beginning of a broadcast of an ongoing baseball game, a sportscaster says:]

*Goran-noyooni, hudan-nara raito-o mamotte-iru Itiroo-sensyu-ga kantoku-ni totyuu-kootai-sase-rare, sudeni benti-ni hikkonde-imasu.*

‘As you can see, Ichiro, who is usually at the right field has been already taken out of the game by the manager and is sitting in the dugout.’

[<sub>CP</sub> *NA'ze* *DO'noyoona* ] *puree* *o* *sita* *kara* ]  
 why what.kind.of play ACC did since  
*kae-rarete-simatta-no* *ka*  
 was.replaced COMP<sub>wh</sub>

*kyoo-no komenteetaa no Egawa-san ni kaisetsu-temoraimasyoo.*  
 today's commentator GEN Mr. Egawa DAT let.explain

‘Let's ask today's commentator Mr. Egawa to explain for what reason he was taken out of the game because he had done what kind of play for that reason.’

## (42) Wh-island:

[Context: An employee at some pharmaceutical company asked his colleague:]

*Uti-no syatyoo wa* [<sub>CP</sub> **NA'**<sub>ze</sub> **DO'**<sub>no</sub> *seihin ga kooroo-syoo*  
 our president TOP why which product NOM ministry.of.health  
*no oikari-ni-hure-yasinai ka*] *sinpai-siteiru no?*  
 worried COMP<sub>Wh</sub> GEN make.angry-lest COMP<sub>Wthr</sub>  
 'For what reason is our president concerned lest the Ministry of Health and  
 Welfare should become angry at which merchandise of ours for that reason?'

These questions can be answered, for example, as in (43a), (43b), and (43c), respectively.

- (43) a. *Saisyuu-kai ni daburu puree o neratte naikaku-no*  
 last.inning in double play ACC attempting inside

*syuuto o nage-saseta tokoro kana.*  
 screw.ball ACC throw-made scene perhaps

'I would say when I made him throw an inside screwball, attempting to  
 make a double play in the last inning.'

- b. *Saikuru hitto o tasseis-itakute san-rui made*  
 cycle hit ACC achieve-wanted third.base to

*boosoosita-no ga mazukatta-ndesyoo-nee.*  
 recklessly.running NOM probably.was.blunder

'Craving to hit for the cycle, he recklessly ran all the way to the third  
 base, which I would say was a blunder.'

- c. *Rinsyoo siken no kekka ga imaiti-datta kara-nee,*  
 clinical test GEN result NOM was.not.perfect because

*atarasii kooatuzai-no dioban no-koto o sinpai-siteiru rasii.*  
 new antihypertensive Diovan about ACC worrying seems

'Since the results of the clinical test was less than perfect, he seems to be  
 worried about Diovan, our new antihypertensive drug.'

Among these, the *wh*-island in (42) seems to require the most effort from us to imagine an appropriate pragmatic context. Such a pragmatic situation in fact is difficult enough to imagine even when we reverse the order of *naze* 'why' and *dono seihin* 'which merchandise' in (42).<sup>16</sup>

<sup>16</sup> Furthermore, any multiple-pair interpretation seems to be prohibited in this context. See Kitagawa, Roehrs and Tomioka (2004) for the observations and the analysis of this phenomenon.

Again, these observations suggest that some serious re-examination of the factual bases of the past work on the higher *wh*-effects would be advisable.

### 3.5 Overt *wh*-movement in Japanese

Takahashi (1993) claimed that when a *wh*-phrase in Japanese is dislocated across a clause boundary in a long-distance fashion, it should be analyzed as having undergone *wh*-movement rather than long-distance scrambling (henceforth *LD-scrambling*). This analysis starts with his report that interpretive asymmetry exists between (44a) and (44b).

- (44) a. *Zyon wa* [<sub>CP</sub> *Mearii ga nani o tabeta ka*]  
           John TOP       Mary NOM what ACC ate       COMP<sub>Wh/Wthr</sub>  
           *siritagatteiru no?*  
           want.to.know COMP<sub>Wh/Y-N</sub>  
           ‘What<sub>t</sub><sub>1</sub> is it that John wants to know whether Mary ate it<sub>1</sub>?’  
           or  
           ‘Does John want to know what Mary ate?’
- b. *Nani o*<sub>1</sub> *Zyon wa* [<sub>CP</sub> *Mearii ga t<sub>1</sub> tabeta ka*] *siritagatteiru no?*  
           what ACC

In (44a), the *wh*-phrase located in the subordinate clause may be interpreted either as a direct question in the matrix CP or as an indirect question in the subordinate CP. On the other hand, when the same *wh*-phrase is LD-scrambled as in (44b), it is reported to be interpretable only as a direct question in the matrix. Takahashi (1993: 658) argues that this observation can be accounted for if we follow Saito (1989) and assume that scrambling is a movement rule that does *not* create an operator-variable relation and hence can be “undone” at LF. The dislocated *wh*-phrase cannot take subordinate scope in (44b) because it has not been moved by LD-scrambling but by *wh*-movement, which by nature establishes an operator-variable relation and hence does not permit “undoing” at LF.

As was pointed out above, however, each of the ambiguous interpretations in (44a) is associated with one specific prosodic pattern. That is, the matrix scope for a direct question is accompanied by Global FPD as in (45a) below, and the subordinate scope for an indirect question is accompanied by Local FPD as in (45b). Note that the post-focal reduction is extended to the end of the entire utterance in (45a) but it is terminated at the end of the subordinate clause in (45b), as marked by the post-COMP rise in *siRITAGA'tteiru* ‘want.to.know’.

- (45) a. *Zyon wa* [<sub>CP</sub> *Mearii ga* *NA'ni* *o tabeta ka*] *siritagatteiru no?*  
           what   ACC           COMP<sub>Wthr</sub>           COMP<sub>Wh</sub>
- b. *Zyon wa* [<sub>CP</sub> *Mearii ga* *NA'ni* *o tabeta ka*] *siRITAGA'tteiru no?*  
           what   ACC           COMP<sub>Wh</sub>           COMP<sub>Y-N</sub>

Crucially, then, when we let the sentence in (44b) be accompanied by each of these prosodic patterns, we can reproduce similar results, as Deguchi and Kitagawa (2002) noted. That is, not only the matrix scope but also the subordinate scope of the LD-scrambled *wh*-phrase becomes available, the former with Global FPD and the latter with Local FPD as illustrated in (46). Note again the different terminating points of the post-focal reduction in (46a) and (46b).

- (46) a. *NA'ni* *o Zyon wa* [<sub>CP</sub> *Mearii ga tabeta ka*] *siritagatteiru no?*  
           what   ACC                           COMP<sub>Wthr</sub>           COMP<sub>Wh</sub>
- b. *NA'ni* *o Zyon wa* [<sub>CP</sub> *Mearii ga tabeta ka*] *siRITAGA'tteiru no?*  
           what   ACC                           COMP<sub>Wh</sub>           COMP<sub>Y-N</sub>

Identifying what scope interpretations the *grammar* permits in accordance with the analyses as in (46), however, is only the first step since it also raises an explanatory question that needs addressing: Why does the subordinate scope interpretation associated with Local FPD as in (46b) have a tendency to be overlooked by some when (44b) is analyzed? Kitagawa and Fodor (2003) and Kitagawa and Fodor (2006) point out that Takahashi's rejection of the subordinate scope interpretation in (44b) in fact has some grounds since the Local FPD assigned as in (46b) gives rise to some conflict between prosody and syntax, whether the prosody is perceived overtly in speech or assigned implicitly in silent reading. The crucial observation is that in the (indisputable) LD-scrambling construction, when a *wh*-phrase is moved to the left periphery of the matrix clause, it precedes some element in the matrix clause (in the present case, the matrix topic *Zyon wa* 'John TOP'), and this matrix item is inevitably trapped in the domain of the post-focal reduction created by the dislocated *wh*-focus, as can be observed in (46a–b). As a result, a mismatch arises when the matrix element *Zyon wa* is included in the domain of Local FPD as in (46b), which terminates at the end of the subordinate clause. This offends a very general preference for congruence between prosodic and syntactic structure, which encourages perceivers to assume a simple transparent relationship between prosody and syntax wherever possible.<sup>17</sup> When Local FPD as in (46b) is perceived *overtly*, the listeners

<sup>17</sup> Such a perceptual preference for congruence between prosody and syntax in sentence processing has independently been noted for other constructions in several languages. See, for example, the Structural Interpretation of Prosody Principle of Fodor (2002b).

find such a prosody-syntax mismatch in on-line processing at the time they encounter the post-COMP rise in *siRITAGA'tteiru*, which is bound to induce some amount of awkwardness. Some of our informants in fact report that accepting the subordinate scope interpretation with overt Local FPD in (46b) urges them to somehow send the interpretation of the matrix topic *Zyon wa* to the background, marginalizing its role in the utterance. Note that such a mismatch does not arise when Global FPD is assigned as in (46a) and the matrix *wh*-scope interpretation is more easily obtained.

When the sentence in (44b) is perceived in silent reading, on the other hand, the readers may initially attempt to project Local FPD as a default prosody (avoiding a long string of post-focal reduction). When the “accidental” trapping of the matrix topic in its post-focal reduction ensues, however, they now guess instead that Global FPD must be assigned as in (46a). Local FPD as in (46b) thus tends to be avoided in silent reading and hence the subordinate *wh*-scope interpretation as well, although such prosody-scope association is permitted by the grammar. This explains Takahashi’s rejection of the subordinate scope reading in (44b) while reconciling it with the (conditional) availability of such a reading when it is forced by overt Local FPD as in (46b).

### 3.6 Superiority effects with LD-scrambling

In his attempt to motivate overt *wh*-movement in Japanese, Takahashi (1993: 664) also reports awkwardness induced by LD-scrambling of a *wh*-phrase as in (47).

- (47) ??*Nani*<sub>1</sub> o Zyon ga **dare** ni [<sub>CP</sub> *Mearii* ga **t**<sub>1</sub>  
 what ACC John NOM who DAT Mary NOM |  
 ↑  
*tabeta to] itta no?*  
 ate COMP<sub>That</sub> said COMP<sub>Wh</sub>  
 ‘What<sub>1</sub> did John say to whom that Mary ate it?’

He claims that this awkwardness arises due to the Superiority effect induced by the interaction of the overt *wh*-movement of *nani o* ‘what ACC’ and the in-situ *wh*-phrase *dare ni* ‘who DAT’.

In footnote 6 on p. 665, however, he also reports (48).

- (48) “If the *wh*-in-situ in [(47)] receives **heavy stress**, then the examples sound **acceptable**. In that case, however, the stressed *wh*-phrase may be discourse-oriented, so that it could escape the Superiority effect for some reason...”  
 [Emphasis added by YK]





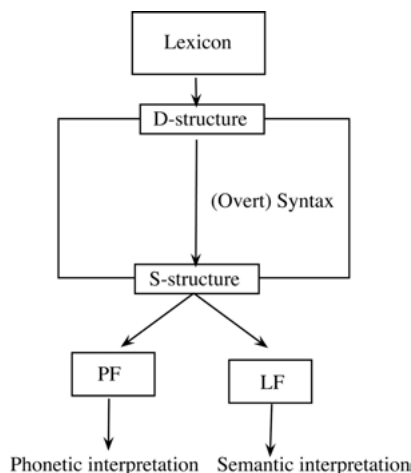
## 4 Theoretical implications

The investigations in the previous sections suggest that we should incorporate aspects of prosody into our formal syntactic analyses of *wh*-questions in Japanese. It, however, is not immediately clear how exactly we can carry out such a research strategy under the model of generative grammar. Pursuit of this mission in fact turns out to pose serious challenges, especially to the widely accepted Minimalist Program. In this section, after giving a brief overview of the major tenets of the Minimalist Program, we will point out the theoretical problems the prosody-scope synchronization of *wh*-interrogatives in Japanese poses to the Minimalist Program and discuss how those problems can be solved.

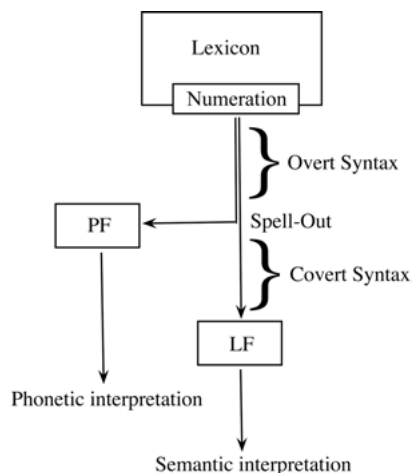
### 4.1 The minimalist thesis and their achievements

Arguably, the most significant achievement of the Minimalist Program (Chomsky 1993, 1995) has been to provide adequacy conditions (or guiding intuition) of grammar which led us to shift our attention from hypothetical *interim* syntactic levels of representation (D-structure and S-structure) to only the input and output of grammar, i.e. lexical items listed in the Numeration and the interface representations (PF and LF). It had the effect of minimizing the role of syntax, which now is narrowed down to the proper mapping of the information on the lexical items onto the instructions for linguistic performance of sounds and meanings expressing an utterance – nothing more and nothing less. The difference between the Government and Binding (GB) model of grammar and the Minimalist model of grammar can be graphically illustrated in (51).<sup>19</sup>

(51) a. GB Model:



b. Minimalist Model:



<sup>19</sup> In this chapter, the “minimalist program/approach/syntax” refers to a general program seeking “to discover to what extent minimal conditions of adequacy suffice to determine the nature of the right theory” (Chomsky 2000: 92), which has been pursued with the working hypotheses to be

The minimalist program imposed restrictions on grammar by postulating the following three core working hypotheses. First, the input to the grammar should be nothing but the information encoded in lexical items (“Inclusiveness”). Second, the information in lexical items should be completely split so that each of the interface representations (PF and LF) consists solely of the information legible to the performance systems of sounds and meanings, respectively (“Legibility”). Third, syntactic derivation should be induced only by an “immediate interface need” to derive legible PF and legible LF (“Economy”).<sup>20</sup> In this chapter, we will also take the position that these restrictions must always be imposed on grammar in our efforts to pursue its optimal solution to satisfy the interface conditions.

## 4.2 Deviation from a minimalist thesis – Overt movement as look-ahead

The “minimalist theses” described above, however, have not always been met in the pursuit of the minimalist syntax in the literature. A problem which has long been noted, at least unofficially, is the very existence of “overt movement”. Overt movement must apply before the syntactic derivation splits toward PF and LF (at Spell-Out) because it affects both sounds and meanings. The early (pre-interface) application of overt movement therefore gives rise to a prototypical look-ahead problem. (A look-ahead problem arises when a *global* rather than local scanning of a derivation in the grammar would be required for the generation of a well-formed sentence.) In order to cope with this dilemma, “EPP-features” were devised (Chomsky 2000, 2001), which were characterized as “viruses” that need to be eliminated before any larger constituent is created by Merge (cf. Uriagereka 1998). With this characterization, an EPP-feature added to a functional head is hypothesized to attract some item to its Spec position to undergo checking and get deleted before Spell-Out. But this theoretical device merely rephrases the problem. It essentially is equivalent to stating that “for some mysterious reason, which reminds us of some properties of ‘viruses’ in medicine, overt movement must take place before Spell-Out”. Moreover, simultaneous effects of overt movement on sounds and meanings are mere *by-products* in this approach arising from the virus-like characterization of EPP-features, which were tailor-made to induce such an effect.

Comparing (52a) and (52b) below, Bošković (2007) pointed out that EPP-features characterized as “I need a Spec” in fact would inevitably induce a look-ahead problem

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mentioned immediately below. Crucially, the use of the term “minimalist” in this chapter does not refer to any particular mechanics or technical details Chomsky has adopted in pursuing this program, for example, postulation of specific functional categories like AGR or  $v$ , an appeal to a “probe-goal relation” (or its predecessor “feature checking”) or overt Agree.

**20** What is meant to be captured by “Least Effort”, “Last Resort”, “Local Economy”, and “Procrastinate” are all subsumed here.



proposing typological classification of *wh*-interrogatives in the languages of the world as follows. Whether a language syntactically derives a *wh*-question through overt *wh*-movement or whether it does so through *wh*-in-situ can be predicted by the interaction of the universal condition on *wh*-prosody as in (53) below with the linear direction of prosodic boundaries and that of COMPs permitted in each language as in (54a–b):

- (53) The *wh*-phrase and the corresponding complementizer are separated by as few prosodic boundaries (of Minor Phrases) as possible. (p. 145, See also p. 151.)
- (54) a. Whether prosodic representations in the language are constructed by mapping the left boundary or the right boundary of a syntactic phrase onto the boundary of a prosodic category, in particular of Minor Phrase.  
 b. Whether the language is COMP-initial or COMP-final.

For example, when the prosodic boundary of the “*wh*-domain” (as a type of Minor Phrase which is established by a *wh*-phrase) is placed on the left but COMP appears on the right as in (55a) below, the *wh*-phrase may remain *in-situ*.

- (55) a. Japanese: [Prosodic *wh*-domain *wh* ... COMP]  
 b. English: [ *wh* COMP ... [Prosodic *wh*-domain *wh* ... ]  
                   ↑ \_\_\_\_\_|

On the other hand, when both the prosodic boundary and COMP appear on the left as in (55b), the universal condition (53) urges a *wh*-phrase to *overtly move* toward the COMP across the intervening prosodic boundary. The generalization offered in this approach thus is that overt *wh*-movement applies only when a language fails to supply a prosodic *wh*-domain within which the *wh*-phrase and COMP can be successfully paired, and that the position of COMP plays an important role in this syntactic choice. Whether or not one pursues this typological generalization in the exact way Richards does, it inevitably induces a look-ahead problem in the minimalist model of grammar since the applicability of overt *wh*-movement in syntax is determined directly by interface incentives at PF.<sup>21</sup>

<sup>21</sup> Richards implies the need to modify the model of grammar to let syntactic operations directly refer to phonology, remarking that “... the look-ahead problems suggest that our understanding of the interfaces is flawed in some way” (p. 215, footnote 1). He also mentioned briefly the possibility that multiple Spell-Out at phase boundaries (Chomsky 2001) might be capable of offering a solution if it can permit phonology to return to the syntax an object annotated for prosodic structure at each phase edge (pp. 201–2, 206). It is not clear, however, if there is any substantial difference between claiming that “phonology returns to the syntax some aspects of phonology” and claiming that “syntax can look-ahead and access aspects of phonology”. See Kitagawa (2013) for other potential problems of this particular idea as well as Richards’ approach appealing to general prosodic phrasing.

## 5.2 Prosody-scope synchronization as a look-across problem

Underlying Richards' proposal was the view we introduced in Section 2.1 above – there is a close association between the semantic scope of a *wh*-interrogative and the domain of focus prosody in Tokyo Japanese (and Fukuoka Japanese, among others). We have seen that the potentially ambiguous sentence in (2) (repeated below as (56)), for instance, can be disambiguated with the two distinct prosodic patterns indicated in (57) and (58) in Tokyo Japanese.

- (56) *Na'oya wa [Ma'ri ga na'ni o nomi'ya de no'nda 'ka]*  
 Naoya TOP Mari NOM what ACC bar at drank COMP<sub>Wthr/Wh</sub>  
*i'mademo obo'eteru 'no?*  
 even.now remember COMP<sub>Wh/Y-N</sub>

- (57) ... [ ... **NA'ni** o nomi'ya de no'nda ka] *I'mademo oBO'eteru 'no?*  
 ... what ACC bar at drank COMP<sub>Wh</sub> even.now remember COMP<sub>Y/N</sub>  
 Wh-focus prominence Post-COMP rise  
Post-Focal Reduction  
 'Does Naoya still remember [what Mari drank at the bar]?'

- (58) ... [ ... **NA'ni** o nomi'ya de no'nda ka] *i'mademo obo'eteru 'no?*  
 ... what ACC bar at drank COMP<sub>Wthr</sub> even.now remember COMP<sub>Wh</sub>  
 'What<sub>i</sub> is it that Naoya still remembers [whether Mari drank it<sub>i</sub> at the bar]?'

Discovering the existence of such prosody-scope synchronization is an important first step to take in our research. If, however, we merely point out that a certain prosodic pattern is responsible for producing a specific semantic effect (or vice versa) without elucidating how such a correlation is grammatically derived, that creates a new problem for generative grammar to solve. Since a prosody-semantics correlation is merely viewed in terms of the direct association of a PF with an LF *skipping syntax*, the prosody-semantics correlation would involve “look-across” in a grammar, as illustrated in Figure 5 below. Note that this situation induces a need for a *global* rather than local scanning of a derivation in order to capture the well-formed association of PF and LF, which we may regard as another type of problem in maintaining local economy.

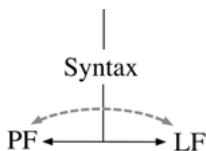


Figure 5: Look-across problem in generative grammar

Hirotani (2005), for instance, attempts to capture the prosody-scope synchronization as in (57)–(58) and its distortion by the extra-grammatical bias toward the subordinate *wh*-scope interpretation by making a crucial appeal to prosodic phrasing at surface. She claims that a subordinate *wh*-scope interpretation arises only when the right boundary of a Major Phrase (MaP) created by the subordinate *wh*-focus is recognized due to the existence of the pitch range reset (i.e. a post-COMP rise) at the beginning of the following MaP, as illustrated in (59).

- (59) ... (MaP NA'ni o nomi'ya de no'nda ka) (MaP *I'mademo* ...)   
↙ Pitch range reset

She then claims that the comprehension of the *wh*-phrase is guided by the prosodic phrasing of the sentence, as specified in her Scope Prosody Correspondence (60) below, which she describes as “a general principle that listeners use when they process sentences containing all and only scope relevant items” (p. x) and induces “the preferred correspondence relation between scope and the prosodic structure of the sentence.” (p. 7)

- (60) The Scope Prosody Correspondence (SPC): (Hirotani 2005: 256)  
 When a term X requires a c-commanding licenser, Y, X should be contained in the same Major (phonological) Phrase (MaP) as Y.

Since this approach discusses only how prosodic phrasing and semantic scope are associated with each other in sentence processing without taking into consideration syntax, it poses a typical “look-across” problem in the framework of generative grammar.<sup>22</sup>

Ishihara (2003: 92–93), on the other hand, claims that multiple transfer applying at Chomsky’s (2001) phase achieves the prosody-scope synchronization of *wh*-interrogatives in Japanese in the course of syntactic derivation, which avoids such a “look-across” problem. We consider the core idea of his analysis to be correct and pursue a version of the multiple transfer approach below. We will discuss an aspect of this phase approach below and compares it to our analysis to be described in the next section.

<sup>22</sup> There in fact are a number of studies which suggest that focus prosody does *not* create a MaP. The validity of the prosodic phrasing in (59) therefore is questionable to begin with. See Poser (1984), Shinya (1999), Kubozono (2007), and Ishihara (2011). See also Kitagawa and Hirose (2012), who also question the legitimacy of the experimental stimuli in some of Hirotani’s (2005) experiments.

## 6 Encoding and decoding the sound-meaning synchronization

### 6.1 Physical/logical feature complexes

The task that the grammar must undertake in both look-ahead and look-across cases is the same – it must somehow find a way to guarantee the synchronization of a specific PF effect and a specific LF effect without involving any global scan of grammatical derivations, and at the same time it must identify an *independent* interface motivation to produce each of such effects.

We would like to argue in the remainder of this chapter that these seemingly independent issues of “look-ahead” and “look-across” can be resolved in the same way, i.e. with an appeal to the same grammatical mechanisms. The key to the solution is to strictly observe the three minimalist constraints imposed on grammar mentioned above – Inclusiveness, Legibility, and Economy.

The proposed approach begins with the hypothesis that the synchronization of sounds and meanings in general is established by a feature complex of the form  $[f_P, f_L]$ , where  $f_P$  is a feature relevant to PF and  $f_L$  to LF (Kitagawa 2013). The paired features  $[f_P, f_L]$ , which we call a “PL-complex” (short for physical/logical feature complex), represent two different interface aspects of a single linguistic phenomenon. Some of the PL-complexes are inherently specified in lexical items but some others are added to them just as other formal features like Case and  $\Phi$ -features, when a Numeration (or Lexical Subarray) is formed.<sup>23</sup> For instance, when a Numeration is formed for the utterance in (61) below, various extra features (among others) are added to the lexical items, as indicated in (62).

(61) [As an answer to the question ‘Who does John love?']  
He loves **MÁRY**.

(62) Numeration: {*he* (NOM), *loves* (PRES, 3P/SG), *Mary* (ACC, [**FOC<sub>P</sub>**, **FOC<sub>L</sub>**])}

Here, because of its focused status, the lexical head of the object  $N_{\max/\min}$  *Mary* is assigned the PL-complex  $[FOC_P, FOC_L]$ . This PL-complex consists of two distinct types of features: the focus feature  $FOC_P$  (which eventually becomes relevant to phonetic interpretation) and the focus feature  $FOC_L$  (which eventually becomes relevant to semantic interpretation). When a language user decides what lexical items are to be used in generating an utterance, he or she also determines, consciously or unconsciously, what informational role should be assigned to each of them in accordance with the appropriate information packaging strategy for a given context. This

<sup>23</sup> In Section 7 below, we will touch upon the claim that the notion PL-complex in fact should be extended to cover such formal features as well.



decision leads to the introduction of PL-complexes to particular lexical items. The PL-complex  $[FOC_P, FOC_L]$  was added to *Mary* in (62) in this way so that *Mary* comes to properly represent the concept of focus both at PF and LF, *in a synchronized way but separately*.<sup>24</sup> As such, the paired features  $[FOC_P, FOC_L]$  are naturally bound to be completely split in the course of computation.

One may have gotten the impression that “PL-complex” is a novel theoretical device but it actually is not. Recall that lexical items in general are nothing but a bundle of phonologico- phonetic and/or semantico-pragmatic features, to which formal features may be added (e.g. *he*: /hi/, [3P, SG, M], NOM), and all of these features must be properly assorted and sent separately to PF and LF when the computation splits. Simply put, the PL-complexes of the form  $[f_P, f_L]$  are only some specific instances of such features. This means that no extra device or new hypothesis needs to be added to the standard minimalist assumptions in order to capture the synchronization of sounds and meanings.

The matter of what particular lexical items are selected into the Numeration is not determined by purely grammatical factors alone but by various extra-grammatical factors like register and style as well – as in the selection from *angry*, *mad*, and *pissed off*. As such, we consider the Numeration to be an interface between the computational component of the minimalist grammar and other cognitive systems. Since information packaging, i.e. how we convey a message, rather than what we convey, is also determined partly by extra-syntactic factors like discourse and pragmatics, we consider Numeration to be the appropriate level for the introduction of PL-complexes like  $[FOC_P, FOC_L]$ .<sup>25</sup> It should also be noted that Numeration should *not* be regarded as a mere list of lexical items but as the blueprint of a particular utterance. It presumably indicates which particular lexical items are to be combined into an utterance in order to express the intended meanings. We therefore may consider that syntactic derivations start with some semantic content even in the Minimalist Program.

## 6.2 Physical legibility and logical legibility

Let us now establish some terminology that clearly labels the concepts we pursue. The role of PL-complexes as characterized above is to guarantee that the linguistic

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<sup>24</sup> This is an extended version of Deguchi and Kitagawa’s (2002) “E-agreement”. Following Fuchs (1984) in spirit, we assume that, when broad focus is involved, all the lexical items within the focalized domain are assigned the PL-complex  $[FOC_P, FOC_L]$ . In (i-A) below, for example, it is assigned to all of the lexical items within the focalized VP, i.e. *cleaned*, *my*, and *room*.

(i) Q: What did you do yesterday?

A: I  $[_{VP}$  cleaned my room].

As has been discussed by many researchers, however, how  $FOC_P$  is phonetically implemented in broad focus is a complex matter which requires further explanation. See Selkirk (1996), Schwarzschild (1999), and Büring (2006), among others, for relevant discussion.

<sup>25</sup> See Kitagawa (2013: 343) for the comparison of PL-complexes and Jackendoff’s (1972: 240) “F”.

expression they are assigned to represents a specific linguistic concept (e.g. focus) properly both at PF and LF. PF and LF then must provide cues that can eventually be interpreted as appropriate instructions for linguistic performance. When such interface cues are established, a linguistic expression can be said to become “legible” at each interface – “physically legible” at PF (henceforth “P-legible”) and “logically legible” at LF (henceforth “L-legible”).

We now illustrate how “P-legibility” and “L-legibility” are established when the prosody-scope synchronization for *wh*-interrogatives in Japanese is captured with an appeal to PL-complexes. First, we hypothesize that the notion “*wh*-focus” is introduced into the Numeration by a *wh*-word and COMP<sub>wh</sub> as a pair (henceforth “*wh*-C pair”), which is specified, presumably inherently, with a PL-complex of the form [wh<sub>P</sub>, wh<sub>I</sub>] and [C<sub>P</sub>, C<sub>I</sub>], respectively, as exemplified in (63).<sup>26</sup>

- (63) Numeration: { ... dare ([wh<sub>P</sub>, wh<sub>L</sub>]) ... ka/no/Ø<sub>ka</sub> ([C<sub>P</sub>, C<sub>L</sub>]) ... }
- who                                  COMP<sub>Wh</sub>

This hypothesis amounts to the claim that, at the time language users make the blueprint of an utterance by forming a Numeration, they already encode the way *wh*-interrogation is incorporated into that utterance by indicating which item is interpreted as focus and under which projection it takes scope. That is, when a *wh*-word and its associated complementizer are introduced into the syntax, it is already specified how they must be represented at PF and at LF. The idea of encoding grammatical information as two independent elements that come to be associated as a single unit is not novel to generative syntax. For instance, in English, perfective aspect, progressive aspect, and passive voice are often analyzed as one unit consisting of both an auxiliary verb and a verbal inflection (i.e. *have* + *-EN*, *be* + *-ING*, and *be* + *-EN*, respectively).

The P-features of a *wh*-C pair make the *wh*-word and COMP<sub>wh</sub> become *P-legible* in the manner described in (64) below in *wh-in-situ* languages.

**26** Some qualifications are in order here. First, these PL-complexes presumably involve the interrogative properties associated with *wh*-C pairs, but we will not pay attention to them in this chapter. Second, *no* in (63) possibly is some abbreviated form of *no-desu-ka* (NMLZ-COP-COMP<sub>wh</sub>), which seems to involve some specific presupposition on the part of the speaker. We suppress this complication in this chapter. Third, we also postulate a phonetically empty COMP<sub>wh</sub> ( $\emptyset_{ka}$ ) when no overt COMP appears in *wh*-questions in Japanese. We in fact should probably consider that the PL-complex [FOC<sub>p</sub>, FOC<sub>i</sub>] for non-*wh* focus also involves a similar pairing of a focused item and a phonetically empty COMP, a hypothesis which we will not pursue in this chapter.

(64) P-legibility of *wh*-in-situ:

A *wh*-phrase and  $\text{COMP}_{\text{Wh}}$  become *P-legible* when their P-features  $[\text{wh}_\text{P}]$  and  $[\text{C}_\text{P}]$  define a *unique domain of focus prosody (FPd)* in such a way that:

- (i)  $[\text{wh}_\text{P}]$  physically marks the *initiation* of FPd, and
- (ii) the *end* of the maximal projection headed by  $[\text{C}_\text{P}]$  physically marks the *termination* of FPd.<sup>27</sup>

While the PF of *wh*-in-situ in general becomes P-legible as specified in (64), the way FPd is *phonetically implemented* varies from language to language, presumably within the range of options made available by Universal Grammar. The most common pattern seems to involve indicating the *wh*-focus word with a distinctively high or low pitch, followed by a stretch of relatively level pitch that terminates at the end of CP (thus marking the end of FPd) (Kitagawa 2013).

Independently of such licensing at PF, the *wh*-C pair must be made *L-legible* at LF in the manner described in (65).

(65) L-legibility of a *wh*-question:

A *wh*-phrase and a  $\text{COMP}_{\text{Wh}}$  become *L-legible* when their L-features  $[\text{wh}_\text{L}]$  and  $[\text{C}_\text{L}]$  define a *unique domain of interpretation for focus* in such a way that:

- (i)  $[\text{wh}_\text{L}]$  identifies the item to be interpreted as *wh-focus*, and
- (ii) the maximal projection headed by  $[\text{C}_\text{L}]$  is identified as this item's *scope domain*.

How legibility is implemented at PF and LF in a potentially ambiguous *wh*-question (66) below in Tokyo Japanese is illustrated in (67) below. Observe how FPd at PF and a *wh*-focus scope domain at LF are aligned when the legibility of a *wh*-phrase and a  $\text{COMP}_{\text{Wh}}$  is established in accordance with (64) and (65).

- (66)  $[\text{CP} \text{ Keisatu wa } [\text{CP} \text{ ka'nozyo ga ano ban da're to a'tteita } ka] \text{ kakunin-siyo'oto-siteiru no}]?$   
 police TOP she NOM that night who with seeing  
 $\text{COMP}_{\text{Wthr}} \text{ confirm-trying.to } \text{COMP}_{\text{Wh}}$   
 'Who<sub>1</sub> is it that the police are trying to confirm [*whether* she was seeing him<sub>1</sub> that night]?'

- (67)
- |                       |   |  |
|-----------------------|---|--|
| <p>PF:</p> <p>LF:</p> | <p><math>[\text{CP} \dots [\text{CP} \dots</math></p> <p><math>\downarrow</math> Focus scope domain</p> | <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">DA're</div> <p>to a'tteita ka] kakunin-siyo'oto-siteiru no]?</p> <p><b>who</b> <span style="float: right;"><b><math>\text{COMP}_{\text{Wh}}</math></b></span></p> <p><math>\downarrow</math> FPd-initial <span style="float: right;"><math>\downarrow</math> FPd-terminal</span></p> <p><math>\downarrow</math> wh-focus <span style="float: right;"><math>\downarrow</math> Head of focus</span></p> <p><span style="float: right;"><b>scope domain</b></span></p> |
|-----------------------|---|--|

<sup>27</sup> The portion “the *end* of the maximal projection headed by” in (64ii) is redundant in a COMP-final language like Japanese, but not in COMP-initial languages. See Kitagawa (2013) for the analysis of FPd in COMP-initial *wh*-in-situ languages.

Note that prosody and *wh*-scope come to be indicated separately at PF and LF, but their effects are synchronized. Since FPD in (67) *does not correspond to a syntactic constituent*, the PF-LF correspondence here would be difficult to capture in terms of syntactic structure (or prosodic structure derived from syntactic structure).<sup>28</sup> PL-complexes, on the other hand, can properly fulfill such prosody-scope synchronization without “look-across”.

Presumably, [Wh<sub>L</sub>] can be considered as an interpretable feature that provides *wh*-focus content, while [C<sub>L</sub>] is an uninterpretable feature that gets deleted when its maximal projection comes to be identified as the interpretive domain of focus. As for the P-features, [Wh<sub>P</sub>] in *wh*-in-situ languages can be considered an interpretable feature that provides a phonological tone target that marks the initiation of FPD at PF. In contrast, [C<sub>P</sub>] is an uninterpretable feature that marks the termination of FPD. This feature is deleted when it is identified as marking the end of the post-focal pitch pattern at the end of the relevant maximal projection. Since [C<sub>P</sub>] and [C<sub>L</sub>] of a *wh*-C pair are uninterpretable features, their failure to make the *wh*-C pair visible is expected to induce ungrammaticality. While [wh<sub>P</sub>] and [wh<sub>L</sub>] are interpretable features, they must also play a role in making the *wh*-C pair legible at the interface by being associated with [C<sub>P</sub>] and [C<sub>L</sub>], respectively. Such association will allow the focus prosody starting with a distinctively high or low pitch of a *wh*-word to be properly terminated, and will also allow the focus value of a *wh*-word (in the sense of Rooth 1992) to be elevated to the ordinary semantic value.<sup>29</sup>

Given the interface requirements on [wh<sub>P</sub>, wh<sub>L</sub>] and [C<sub>P</sub>, C<sub>L</sub>] just described, the “paired” inclusion of a *wh*-phrase and COMP<sub>wh</sub> in the Numeration will probably be guaranteed even without any external specification. Since a *wh*-C pair in Japanese as in (63) collectively establishes legibility at PF and LF, if one of them fails to be introduced in the Numeration, the derivation will crash at the interface level. Note that creation of the Numeration per se may be carried out freely without involving any constraint. A well-formed derivation results only when the entire lexical entry in the Numeration can properly establish legibility at the interface and other derivations are filtered out. Thus, the creation of the Numeration would not require any “look-ahead”. Presumably, the situation involved here is quite similar to what takes place in the syntax of aspects and passive voice in English. As is well-known, each of the auxiliary-participle pairs in these constructions must co-occur in English, for example, as in (68).

<sup>28</sup> This also suggests that what is often labeled as an “intonational phrase” in prosodic phonology is *not* necessarily derived directly from a syntactic constituent.

<sup>29</sup> At the same time, the post-focal materials located within FPD at PF presumably come to be regarded as the “tail” portion of the background of the focus at LF in the sense of Vallduví (1990).

- (68) a. \*He is go\_\_.  
 b. \*He \_\_ going.

We can also ascribe this obligatory periphrasis to the legibility they must establish *as a pair* but separately at PF and LF.

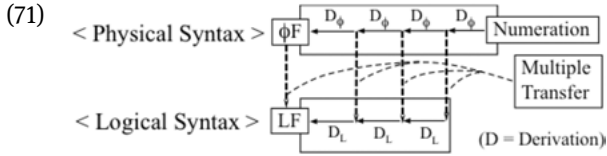
### 6.3 Typology of *wh*-interrogatives

While the scope of *wh*-focus represented at LF is synchronized with a specific prosodic pattern represented at PF in *wh*-in-situ languages, a similar PF-LF correspondence is established by *overt* displacement in “*wh*-movement languages”. Richards (2010), in fact, offered this generalization on the prosody-based typology of *wh*-interrogatives: that overt *wh*-movement to the specifier position of CP applies when a language fails to supply an appropriate prosodic *wh*-domain for successful *wh*-COMP association. It then seems not too far-fetched for us to consider that overt movement, or more precisely, *the displacement effect observed at PF*, plays essentially the same role as *wh*-prosody. We then are prompted to extend the view of interface licensing developed above from *wh*-in-situ languages to *wh*-movement languages. At the core of this approach lies Wachowicz’s (1978: 156) idea that all languages must provide some form of *surface physical cue* for marking *wh*-questions. Elaborating further on this view in minimalist-syntactic terms, let us now hypothesize that whatever method of physical marking may be adopted for *wh*-questions (assigning a distinctive *wh*-prosodic pattern or displacing a *wh*-phrase to the periphery of CP, etc.), its primary purpose is to indicate both: (i) the item to be interpreted as focus, and (ii) the constituent that serves as its scope domain. The two types of languages then may be unified by appealing to the notion P-legibility with the cross-language variation in the method of establishing P-legibility as specified in (69i–ii).

- (69) (i) In *wh*-in-situ languages:  
 A *wh*-C pair become *P-legible* when their [wh<sub>P</sub>] and [C<sub>P</sub>] define *a unique FPD* in such a way that the [wh<sub>P</sub>] *initiates* FPD and (the maximal projection headed by) the [C<sub>P</sub>] *terminates* it.
- (ii) In *wh*-movement languages:  
 A *wh*-C pair become *P-legible* when their [wh<sub>P</sub>] and [C<sub>P</sub>] jointly *initiate* a unique CP in such a way that the [wh<sub>P</sub>] is *located at the left periphery of the CP headed by the [C<sub>P</sub>]*.

The P-legibility in (69ii) is illustrated in (70) with an English examples.





The crucial revision here is that overt syntax (now called “physical syntax”) and covert syntax (now called “logical syntax”) *do not overlap*. They are completely separate and operate in the following order. Physical syntax starts with the generation of linguistic expressions by merging the features encoded in lexical items and their projections. The goal of physical syntax is to derive a well-formed physical form ( $\phi F$ ), at which the P-legibility of linguistic expressions must be achieved. An operation in physical syntax is enacted solely for this purpose, triggered by the  $f_P$  of a PL-complex. At any derivational stage of physical syntax, the semantico-pragmatic properties of lexical items (L-features) and the structure they make up may be extracted away from P-features and fed into logical syntax ‘as needed’ for L-legibility. This can be achieved by multiple transfer, applying in the way proposed by Epstein, et al. (1998). Logical syntax then attempts to derive a well-formed LF, at which L-legibility of linguistic expressions must be achieved.<sup>33</sup> In a sense, this model proposes to treat not only covert syntax but also overt syntax (redefined now as “physical syntax”) as a derivational process directly mapping lexical information onto an interface representation, solely prompted by interface needs.

When PL-complexes are combined with the model of syntax in (71), we can guarantee prosody-scope synchronization while making sure that each of them is independently established with a separate motive in physical syntax and logical syntax, respectively. That is, prosody does not directly induce scope, or vice versa, in a look-across fashion.

How do PL-complexes trigger overt movement in this model of syntax? A [ $wh_P$ ] feature assigned to the head of a *wh*-argument in English, for example, requires this argument to achieve its P-legibility in accordance with (69ii) and hence to undergo movement. [ $wh_P$ ] here plays a role similar to that of the “I need to be a spec” *wh*-feature argued for by Bošković (2007), and inherits its virtue of inducing succes-

<sup>33</sup> Such a “derivational” mapping of physical syntax onto logical syntax can induce, for instance, various LF-reconstruction effects. We tentatively assume that multiple transfer applies also in the mapping of logical syntax onto semantics and that of physical syntax onto phonology/phonetics. Note that we are defining “interface” more broadly than customarily done since our  $\phi F$  is a purely syntactic representation, which is more abstract than PF, the output of phonetics. In principle, a PL-complex could come in a “simplex” form of [ $f_P$ ] alone or [ $f_L$ ] alone. The former then would induce, for instance, stylistic rules and the latter, covert movement. We will, however, refrain from pursuing this possibility in this work.

sively cyclic movement in a self-serving manner.<sup>34</sup> If [wh<sub>P</sub>] is not located at the periphery of the projection of [C<sub>P</sub>] and remains “in-situ” (in the base-generated position or in the intermediate Spec-CP position), it fails to become P-legible, and hence must move every time merge applies. This way, a *wh*-phrase continues to move until it eventually reaches the left periphery of a CP headed by [C<sub>P</sub>] without involving look-ahead.<sup>35</sup> A transfer to logical syntax at that point will also achieve L-legibility of the *wh*-C pair in accordance with (65), both of [wh<sub>L</sub>] and [C<sub>L</sub>] being located under the same CP.

While the proposed reorganization of syntax in (71) may appear to be drastic at first sight, the revisions are in fact relatively small-scale. First, the proposed reorganization has simply decomposed traditional overt syntax by untangling and separating its PF-effects and LF-effects, while permitting them to be synchronized with an appeal to PL-complexes. Second, multiple transfer merely applies in the opposite way to Spell-Out, stripping away L-features rather than P-features from the feature complexes of lexical items. If such small-scale revisions permit us to account for the synchronization of sounds and meanings while avoiding the serious theoretical problems involving “look-ahead” and “look-across”, they are certainly worth trying.

The model in (71) should not be misunderstood as the manifestation of the claim that sound is more fundamental to language than meaning. On the contrary, it hypothesizes that an utterance starts with the rough ideas about meaning, postulating the Numeration as the starting point of the derivation. It also hypothesizes that the generative procedure advances step-by-step, with entirely local determination of the exact physical form which turns the blueprint of partial linguistic meanings into its (interim) logical form. Then the arising interface information will be utilized in actual semantic interpretation and phonetic interpretation.<sup>36</sup>

In this interface licensing approach, *both prosody and displacement* are regarded as physical (or *overt*) effects at  $\phi$ F to be synchronized with LF effects, and such synchronization is achieved by separate but paired derivations in physical and logical

<sup>34</sup> Crucially, however, [wh<sub>P</sub>] would not require us to assign any contradictory semantic characterization to a focus feature for moved *wh*-phrases and one for in-situ *wh*-phrases as Bošković’s [F] feature does. Kitagawa (2011) also points out that EPP characterized as “a case feature that needs to be a spec” in Bošković’s approach is essentially equivalent to the property “I need to be located at the Spec-position of the target head *at PF* (i.e. must be pronounced there)”, and overt movement is assumed to apply before Spell-Out solely to achieve this anticipated displacement effect at PF.

<sup>35</sup> If no such [C<sub>P</sub>] is encountered in the course of derivation, [wh<sub>P</sub>] fails to become P-legible and a crash arises.

<sup>36</sup> We could postulate syntactic derivation in which merge generates *linearly unordered* syntactic objects as Chomsky (2013) does, and let multiple transfer map it to both physical and logical syntax. But generation of such syntactic objects would in fact give rise to redundancy since logical syntax can simply disregard linear order existing in syntactic objects when it establishes a c-command relation intra-sententially. On the other hand, logical syntax can also appeal to linear order when some discourse principle (e.g. the Novelty Condition of Heim 1982: 150–152) would call for it within a single utterance (e.g. He likes {*a cat*<sub>1</sub> / *the cat*<sub>1</sub> / *it*<sub>1</sub>} and/while she hates *a cat*<sub>1</sub>). It should also be made clear that (71) is proposed as a model of competence, *not* as an acquisition model.



syntax. In a sense, then, both cases of synchronization can be regarded as involving syntax with overt effects. As such, it is practically useful to use “overt syntax” to refer to both. We thus use the term “overt syntax” as a cover term to refer to *a grammatical procedure that achieves the synchronized  $\phi$ F- and LF-effects encoded by PL-complexes*. Under this new definition, the synchronization of *wh*-prosody and *wh*-semantics can be regarded as a product of overt syntax, just as the synchronization of *wh*-movement and *wh*-semantics is. Put differently, overt movement also involves a type of PF-LF synchronization achieved by PL-complexes.

As mentioned at the end of Section 5.2, Ishihara (2003) claims that Chomsky’s (2001) “derivation by phase” can properly capture the prosody-scope synchronization of *wh*-interrogatives in Japanese. While this approach successfully avoids a “look-across” problem, it is not clear to us if Chomsky’s (2001) phase categories (vp/CP) indeed play any crucial role in such synchronization. In the by-now familiar scopally ambiguous sentence as in (72) below, for example, whether the prosody-scope synchronization takes place at the subordinate CP as a lower phase or at the matrix CP as a higher phase cannot be determined without examining if these CPs are headed by COMP<sub>Wh</sub> or not.

- (72) [<sub>CP</sub> Na’oya wa [<sub>CP</sub> Ma’ri ga **na’ni** o nomi’ya de no’nda **’ka**]  
 Naoya TOP Mari NOM what ACC bar at drank COMP<sub>Whtr/Wh</sub>  
*i’mademo obo’eteru ’no*?  
 even.now remember COMP<sub>Wh/Y-N</sub>

This suggests that phase in this sentence must be defined “dynamically” based upon the lexical properties of COMP. Moreover, if transfer to each of the two interfaces (the “sensorimotor” system and the “conceptual-intentional” system) indeed has the freedom to take place independently at different points in the derivation as suggested by some researchers (e.g. Cecchetto 2004; Felser 2004; Marušič 2005), an extra device to ensure the prosody-scope synchronization would be necessary even in the phase approach. That is, some device that fulfills the same function as PL-complexes would likely have to be postulated in the phase approach as well. If, on the other hand, we just postulate PL-complexes and adopt multiple transfer, we can achieve not only the prosody-scope synchronization of *wh*-in-situ without involving “look-across” but also the long-distance overt *wh*-movement without involving “look-ahead”. In either case, the notion “phase” would be superfluous.

## 7 Further look-across problems in the minimalist syntax

A look-across problem neither is limited to the issue of prosody-scope association nor is an entirely new problem. It has in fact existed for a long time in generative grammar under the Principles and Parameters approach. To begin with, based upon

Jean-Roger Vergnaud's observation, the well-known Case Filter as in (73) below was proposed by Chomsky (1981) and well-accepted into the Government and Binding framework.

- (73) Every **pronounced** NP needs abstract **Case at PF (or S-structure)**.  
[Emphasis added by YK]

With the assumption that abstract Case is assigned under government, it was claimed that, typically, a subject of a sentence appears as the specifier of a finite tense and an object as the complement of a verb or a preposition. In addition, it was claimed that the assigner and assignee of Case must be adjacent to each other at the surface (Keyser 1968; Chomsky 1980; Stowell 1981). Although "S-structure" was hypothesized to be a possible level of syntactic representation at that time, it came to be eliminated later under the Minimalist Program. The Case Filter therefore can now be characterized as an early attempt to predict the distribution of pronounced NPs at PF under the Principles and Parameters approach.

Later, in an effort to reduce the Case Filter to the  $\theta$ -Criterion, Chomsky (1981) followed the suggestion by Aoun (1979) and proposed what is known as the Visibility Condition as in (74).

- (74) Arguments must have **Case at PF** to be visible for  $\theta$ -**marking at LF**.  
[Emphasis added by YK]

Note that this statement involves a proto-typical look-across problem in the generative grammar since it attempts to directly correlate the PF distribution of argument NPs and their LF interpretations, skipping syntax. No serious attempt to implement this conjecture seems to have been offered in the literature to this date, however. Another task that must be fulfilled in the minimalist syntax therefore is to explicate how the Case- $\theta$  association can be guaranteed without "look-across". In addition, it should be clarified where and how the Case adjacency requirement on Case marking should be captured, which is not so easy a task to achieve in the minimalist syntax, the role of Case having become increasingly more obscure.<sup>37</sup>

Kitagawa and Yoon (2011), Yoon (2012), and Kitagawa and Yoon (2012) point out that the look-across problem involved in the Visibility Condition can be resolved when we incorporate PL-complexes into the lexical entry of argument NPs at the Numeration. They argue, for example, that the following heterogeneous and seemingly independent case adjacency phenomena can be explicated in a uniform fashion.

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<sup>37</sup> Chomsky (2001: 6), for instance, has characterized Case merely as an entity ancillary to agreement, assuming that Case of a goal N is "assigned a value under agreement, then removed by Spell-Out from the narrow syntax" without playing any role in the Probe-Goal relation.

(75) Japanese:

- a. DA're {ga / \* $\emptyset$ } NA'ni {o /  $\emptyset$ } *tanonda* **Fin** *no*?  
 who NOM what ACC ordered COMP<sub>Wh</sub>  
 'Who ordered what?'
- b. NA'ni<sub>1</sub> {o / \* $\emptyset$ } DA're {ga / \* $\emptyset$ } —<sub>1</sub> *tanonda* **Fin** *no*?  
 what ACC who NOM ordered COMP<sub>Wh</sub>

(76) Korean:

- a. *Nwukwu* {*ka* / \* $\emptyset$ } *mwues* {*ul* /  $\emptyset$ } *sass* **Fin** *ni*?  
 who NOM what ACC bought COMP<sub>Wh</sub>  
 'Who bought what?'
- b. *Mwue(s)*<sub>1</sub> {*ul* / \* $\emptyset$ } *nwukwu* {*ka* / \* $\emptyset$ } —<sub>1</sub> *sass* **Fin** *ni*?  
 what ACC who NOM bought COMP<sub>Wh</sub>
- c. MwUE<sub>1</sub>'  $\emptyset$  (//) *nwukwu* {*ka* / \* $\emptyset$ } —<sub>1</sub> *sass* **Fin** *ni*?  
 what ACC who NOM bought COMP<sub>Wh</sub>  
 (✓ = Short accute rising intonation; // = pause)

First, as illustrated in (75)–(76), case marker drop is prohibited from an object unless it is either the closest argument to (or adjacent to) the verb in Japanese and Korean (cf. Kuno 1973; Saito 1985; Takezawa 1987; Ahn and Cho 2006), or accompanied by a special rising intonation in Korean. It was argued that P-legibility of an object NP can be achieved by one or more of the universal means selected from the list in (77) below in a particular language while L-legibility of an object NP is achieved universally when it is properly recognized as an “internal argument” of a predicate. Note that all of (77a–c) can be characterized as “physically recognizable” properties. It was hypothesized that Korean adopts all of the options in (77) while Japanese adopts only (77a–b).

- (77) a. Overt accusative marking  
 b. Adjacency (or Proximity) to a verbal head  
 c. Specific prosodic marking

They also argue that P-legibility of a subject NP can be achieved by one or more of the universal means of physical marking selected from (78) below while its L-legibility is achieved universally when it is properly recognized as the “locus of predication”.

- (78) a. Overt nominative marking  
 b. Left periphery of IP (= Adjacency to a *finite* head selecting IP)

It is assumed that Japanese and Korean adopt (78a) while English adopts (78b), reflecting their distinct head positions. From this assumption, not only the obligatoriness of nominative marking of a subject in Japanese and Korean as in (75)–(76) but also the subject-object asymmetry in the case adjacency effect in English (Kitagawa 1997) as in (79) follows naturally:

(79) English:

- a. Subject: **Fin** [<sub>IP</sub> **John** *probably* [<sub>I</sub> **has**] read the letter].
- b. Object: \*John [<sub>V</sub> **read**] *carefully* **the letter**.

Further pursuit of this topic, however, must be left for future research.

## 8 Summary and conclusion

Our investigations in Sections 2 and 3 suggested that the main culprit in obscuring the empirical facts on island effects in Japanese may have been the lack of attention to prosody, pragmatics, and other extra-grammatical factors. Since acceptability judgments are often solicited using only written examples, there is a danger that informants unconsciously and arbitrarily assign some specific prosodic pattern to a sentence when they are either reading it aloud or silently. They may also unconsciously feel pressed to assign a default prosodic pattern in silent reading. Either way, their syntactic analysis will be influenced in a specific way by the assigned prosody. By neglecting prosodic factors, in other words, a researcher runs the risk of conducting a syntactic test that is not replicable, or otherwise adds noise.

Acceptability judgments also tend to be solicited with sentences presented in a null discourse context even when their proper interpretation requires rather specific elaborated pragmatic contexts. This common exercise also tends to elicit lower acceptability judgments of the sentences from the informants who may or may not make extra efforts to imagine an appropriate pragmatic context. The lowered acceptability judgments solicited in this way may be misinterpreted as ungrammaticality, and the pragmatic control arbitrarily exercised by the informants could also hinder replication of the involved syntactic test. Such lack of replicability and/or reliability of syntactic tests seems to play a significant role in the variation as well as the instability of native speaker intuitions on the island effect involving *wh*-questions in Japanese.

In Sections 4–7, we laid out the core working hypotheses of the Minimalist Program and the theoretical problems of “look-ahead” and “look-across” and pointed out that attempts to incorporate prosody into investigations of formal syntax typically induce such problems. We then spelled out an approach which allows us to capture

the prosody-scope synchronization as well as overt movement without causing “look-ahead” and “look-across” problems. This approach provides a simple, unified typological grasp of *wh*-in-situ and *wh*-movement. Finally, we also hinted at a possible extension of this approach to the “look-across” problem posed by the Visibility Condition when we attempt to account for the correlation between case markings and thematic interpretations of arguments.

This approach completely splits traditional overt syntax into P-syntax and L-syntax, each of which independently develops a syntactic derivation in order to establish interface legibility in a local fashion. In this revised execution of overt syntax, the synchronization of P-syntax and L-syntax is achieved by incorporating PL-complexes into the Numeration and their independent licensing is carried out by letting multiple transfer take place in a bottom-up fashion.

The approach also permits us to strictly observe the three minimalist theses. First, it satisfies “Inclusiveness” by appealing to PL-complexes, the information represented on lexical items from the outset of syntactic derivation. Second, “Legibility” is satisfied with the complete split of PL-complexes into the features relevant to physical form ( $\phi$ F) and those relevant to logical form (LF). Finally, both general and local “Economy” is maintained when sound-meaning synchronization is achieved solely and separately by interface needs in physical and logical syntax, respectively.

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## 14 Subject

### 1 Introduction

In this chapter, we will review studies on the syntactic position of the subject in Japanese. What is a subject is one of the most fundamental issues in linguistic theory, and to answer the question is beyond the scope of this chapter. Here, we operationally define Japanese subjects as arguments that can be the target of subject honorification and the antecedent of reflexive *zibun*, as explained in Section 2. In Section 3, we will overview the syntactic distribution of adjuncts, as a preparation for subsequent discussions. In Sections 4, 5, and 6, we will consider whether the nominative subject in Japanese may occupy Spec CP, Spec vP, and Spec TP, respectively, at the point of Spell-Out. In Section 7, we will turn to the syntactic positions of non-nominative subjects. Section 8 will conclude the chapter.

### 2 Tests for subjecthood

One of the most frequently used operational tests for subjecthood in Japanese is subject honorification (cf. Harada 1976; Shibatani 1977). Subject honorification is a phenomenon in which a certain marking on the predicate (e.g. circumfixing the verb with *o-* and *-ni naru* as in *o-V-ni naru*) indicates the speaker's sense of respect toward the referent of the grammatical subject of that predicate. Compare the non-honorific form in (1a) with its honorific counterpart in (1b).

- (1) a. *Tanaka-san ga tatta.*  
Tanaka-Mr. NOM stood.up  
'Mr. Tanaka stood up.'
- b. *Tanaka-san ga o-tati-ni natta.*  
Tanaka-Mr. NOM stood.up (SBJ-HON)  
'Mr. Tanaka stood up.' (The speaker respects Mr. Tanaka.)

In a subject honorification sentence, the intended target of the speaker's respect must be the referent of the grammatical subject, as shown in (2a), and when it is not, the sentence is judged deviant, as exemplified in (2b), where the intended target of the speaker's respect is the referent of the object.

- (2) a. *Tigusa sensei ga gakuseitai o o-yobi-ni natta.*  
 Chigusa professor NOM students ACC called (SBJ-HON)  
 ‘Prof. Chigusa called the students.’
- b. *#Gakuseitai ga Tigusa sensei o o-yobi-ni natta.*  
 students NOM Chigusa professor ACC called (SBJ-HON)  
 ‘The students called Prof. Chigusa.’  
 (The speaker intends to express his/her respect to Prof. Chigusa.)

Another diagnostic for identifying grammatical subjects in Japanese involves the reflexive anaphor *zibun* ‘self’, which generally takes a subject as its antecedent (cf. Kuno 1973; Shibatani 1976). In (3), for instance, the subject *Masami* but not the object *Hiromi* can be the antecedent of *zibun*.

- (3) *Masami<sub>1</sub> ga Hiromi<sub>2</sub> o zibun<sub>1/\*2</sub> no heya de hometa.*  
 Masami NOM Hiromi ACC self GEN room in praised  
 ‘Masami<sub>1</sub> praised Hiromi in self’s<sub>1/\*2</sub> own room.’

In the following sections, the phrases that we refer to as subjects all pass these two tests.

### 3 Subject and adjunct

In this section, we will review the syntactic positions of adjuncts relative to the nominative subject, as a preparation for the subsequent discussions. Japanese adverbs can be divided into three broad classes based on their syntactic distribution: (i) adverbs that are externally merged with a projection of a verb (i.e. *VP adverbs*); (ii) adverbs that are externally merged with a projection of tense (i.e. *TP adverbs*); and (iii) adverbs that are externally merged with a projection of a complementizer (i.e. *CP adverbs*) (Koizumi 1993; cf. also Minami 1974; Nakau 1980; Noda 1984; Takubo 1987; Cinque 1999; among others). The canonical positions of the three classes of adverbs are schematically shown in (4), where *A* represents an adverb.

- (4) [<sub>CP</sub> (CP-A) [<sub>TP</sub> (TP-A) Subj (TP-A) [<sub>VP</sub> (VP-A) Obj (VP-A) V] T] C]

VP adverbs include manner and resultative adverbs such as *hayaku* ‘fast’ and *karikarini* ‘to a crisp’.<sup>1</sup> Their canonical positions within a VP are c-commanded by the negative morpheme in short negation sentences such as those in (5), where the

<sup>1</sup> The VP adverbs mentioned in the text may be base-generated not only in VP but also in vP (Koizumi and Tamaoka 2010). Since the distinction between VP and vP is mostly irrelevant to the present discussion, we will use the former as a cover term until Section 5, where we will take up this issue.

negative morpheme occurs between a verb stem and a tense morpheme (i.e. *katta*) (For negation in Japanese, see Chapter 17 [Nishioka, this volume]). Therefore, VP adverbs tend to be the focus of negation. (5a) is interpreted as ‘I ran not fast’ (i.e. ‘I ran slowly’), and (5b) as ‘I baked the bacon but not to a crisp’ (i.e. I stopped cooking the bacon before it became crispy).

- (5) a. [<sub>VP</sub> *Hayaku hasir*] -ana-katta.  
           fast      run      -NEG-PST  
           ‘(I) did not run fast.’
- b. [<sub>VP</sub> *Beekon o karikarini yak*] -ana-katta.  
           bacon ACC to.a.crisp bake -NEG-PST  
           ‘(I) did not bake the bacon to a crisp.’

TP adverbs include time and aspectual adverbs such as *kinoo* ‘yesterday’ and *sibasiba* ‘frequently.’ Their canonical positions within a TP are outside the c-command domain of the negative morpheme in short negation sentences.<sup>2</sup> Thus, in the short negation sentences given in (6), what is negated is the verb *run* and not the adverbs *yesterday/frequently*. TP adverbs, however, can be the target of negation in long negation sentences with *wakedewanai* ‘it is not the case’, which takes a TP as its complement. Therefore, the preferred readings of the sentences in (7) are ‘The time when I ran was not yesterday’ and ‘I ran only infrequently’, respectively.

- (6) a. [<sub>TP</sub> *Kinoo* [<sub>VP</sub> *hasir*] -ana] -katta].  
           yesterday      run      -NEG -PST  
           ‘(I) did not run yesterday.’
- b. [<sub>TP</sub> *Sibasiba* [<sub>VP</sub> *hasir*] -ana] -katta].  
           frequently      run      -NEG -PST  
           ‘Frequently (I) did not run.’

<sup>2</sup> To be more precise, there are two types of time-related adverbials in Japanese: those marked with the postposition *-ni* ‘at/on’ or *-de* ‘at’, and those without them. The former are VP adverbs, whereas the latter are TP adverbs (Koizumi 1991). This can be illustrated, for example, by the following contrast.

- (i) a. *Taroo wa sono hi ni siken o uke-nakat-ta.*  
           Taroo TOP that day on exam ACC take-NEG-PST  
           ‘Taroo didn’t take the exam THAT DAY.’
- b. *Taroo wa sono hi siken o uke-nakat-ta.*  
           Taroo TOP that day exam ACC take-NEG-PST  
           ‘Taroo didn’t take the exam that day.’

The time-related adverbial *sono hi-ni* in (ia) may be the focus of negation, in contrast to *sono hi* in (ib), which cannot. We are only concerned with the latter type of time-related adverbials in this paper.

- (7) a.  $[_{TP}$  *Kinoo*  $[_{VP}$  *hasir*] *-ta*] *-wakedewanai*.  
 yesterday run -PST -it.is.not.the.case  
 ‘It is not the case that (I) ran yesterday.’
- b.  $[_{TP}$  *Sibasiba*  $[[_{VP}$  *hasir*] *-ta*] *-wakedewanai*.  
 frequently run -PST -it.is.not.the.case  
 ‘It is not the case that (I) ran frequently.’

Finally, CP adverbs include various types of modal adverbs such as *osoraku* ‘probably’ and *saiwai* ‘fortunately’ (For modality and CP adverbs, see also Chapter 10 [Hasegawa, this volume]). CP adverbs occur outside the c-command domain of the negative morpheme in both short negation and long negation sentences and hence cannot be the target of negation, as shown in (8) and (9).<sup>3</sup>

- (8) a.  $[_{CP}$  *Osoraku*  $[_{TP}$   $[_{VP}$  *hasir*] *-ana* *-katta*] *daroo*].  
 probably run -NEG -PST seem  
 ‘Probably (he or she) did not run.’
- b.  $[_{CP}$  *Saiwai*  $[_{TP}$   $[_{VP}$  *ame* *ga* *hur*] *-ana* *-katta*]].  
 fortunately rain NOM fall -NEG -PST  
 ‘Fortunately, it did not rain.’
- (9) a.  $[_{CP}$  *Osoraku*  $[[_{TP}$   $[_{VP}$  *hasir*] *-ta*] *-wakedewanai*] *daroo*].  
 probably run -PST -it.is.not.the.case seem  
 ‘Probably it is not the case that (he or she) ran.’
- b.  $[_{CP}$  *Saiwai*  $[[_{TP}$   $[_{VP}$  *ame* *ga* *hur*] *-ta*] *-wakedewanai*]].  
 fortunately rain NOM fall -PST -it.is.not.the.case  
 ‘Fortunately, it is not the case that it rained.’

According to the schematic structure shown in (4) above, for sentences with a VP adverb, Subject-Adverb-Object-Verb (SAOV) and Subject-Object-Adverb-Verb (SOAV) are the canonical word orders, and Adverb-Subject-Object-Verb (ASOV) is a non-canonical, derived word order that involves a scrambling of the adverb (10).<sup>4</sup>

<sup>3</sup> The example in (8a) is not biclausal. The modal *daroo* does not inflect with tense, nor can it be negated, suggesting that it is not a main verb.

<sup>4</sup> That (10b) and (10c) are both syntactically basic does not entail that there is no semantic difference between them. Generally speaking, sentences with different word orders (regardless of whether they are canonical or derived) have different syntactic structures and, hence, are associated with different semantic representations, which may or may not be truth-conditionally and/or functionally equivalent to each other.

- (10) a. ASOV (derived word order with a VP adverb)

*Yukkuri Taroo ga sinbun o yonda.*  
 slowly Taro NOM newspaper ACC read  
 'Taro read a newspaper slowly.'

- b. SAOV (canonical word order with a VP adverb)

*Taroo ga yukkuri sinbun o yonda.*  
 Taro NOM slowly newspaper ACC read

- c. SOAV (canonical word order with a VP adverb)

*Taroo ga sinbun o yukkuri yonda.*  
 Taro NOM newspaper ACC slowly read

Similarly, for sentences with a TP adverb, ASOV and SAOV are the canonical word orders, and SOAV is a derived word order (11). For sentences with a CP adverb, ASOV is the canonical word order, and SAOV and SOAV are non-canonical word orders (12).

- (11) a. ASOV (canonical word order with a TP adverb)

*Kinoo Taroo ga kabin o kowasita.*  
 yesterday Taro NOM vase ACC broke  
 'Taro broke a vase yesterday.'

- b. SAOV (canonical word order with a TP adverb)

*Taroo ga kinoo kabin o kowasita.*  
 Taro NOM yesterday vase ACC broke

- c. SOAV (derived word order with a TP adverb)

*Taroo ga kabin o kinoo kowasita.*  
 Taro NOM vase ACC yesterday broke

- (12) a. ASOV (canonical word order with a CP adverb)

*Zannennagara Taroo ga syoosin o zitaitsita.*  
 unfortunately Taro NOM promotion ACC refused  
 'Unfortunately, Taro refused (an offer of) promotion.'

- b. SAOV (derived word order with a CP adverb)

*Taroo ga zannennagara syoosin o zitaitsita.*  
 Taro NOM unfortunately promotion ACC refused

- c. SOAV (derived word order with a CP adverb)

*Taroo ga syoosin o zannennagara zitaitsita.*  
 Taro NOM promotion ACC unfortunately refused

The relation between the adverb classes and the canonicity of word order is summarized in (13).

(13) <u>Adverb Class</u>	<u>Canonical Word Order(s)</u>	<u>Derived Word Order(s)</u>
VP adverbs:	SAOV and SOAV	ASOV
TP adverbs:	ASOV and SAOV	SOAV
CP adverbs:	ASOV	SAOV and SOAV

In psycholinguistic literature, it is generally held that other things being equal, the human parser processes canonical word orders faster than derived word orders (e.g. Mazuka, Itoh, and Kondo 2002; Miyamoto and Takahashi 2002; Tamaoka et al. 2005; see also Gibson 1998; Hawkins 2004; Marantz 2005). Thus, the analysis summarized in (13) predicts that in sentences with VP adverbs, SAOV and SOAV are processed faster than ASOV; in sentences with TP adverbs, ASOV and SAOV are processed faster than SOAV; and in sentences with CP adverbs, ASOV is processed faster than SAOV and SOAV:

- (14) Predictions (“X < Y” stands for “X is processed faster than Y.”)
- a. VP adverbs: {SAOV, SOAV} < ASOV
  - b. TP adverbs: {ASOV, SAOV} < SOAV
  - c. CP adverbs: ASOV < {SAOV, SOAV}

Koizumi and Tamaoka (2006) tested these predictions with a reading experiment that contained a sentence plausibility judgment task (Tamaoka et al. 2005).<sup>5</sup> In the experiment, transitive sentences with adverbs such as those in (10) to (12) as well as semantically anomalous filler sentences were visually presented at the center of a computer screen to the participants in random order. The participants were instructed to respond as quickly and as accurately as possible by deciding whether or not the sentences were semantically plausible (i.e. made sense) and registering their responses by pressing either the “yes” or “no” button. In order to determine whether or not a sentence made sense, the participants had to determine its syntactic structure as well as retrieve lexical information. The results of the experiment confirmed all the predictions indicated in (14).<sup>6</sup> In sentences with VP adverbs, the response times were reliably longer for ASOV (1764 ms) than either SAOV (1534 ms)

<sup>5</sup> In all the experiments reported in this chapter, the participants were native speakers of Japanese, mostly undergraduate or graduate students living in Japan at the time of participation.

<sup>6</sup> A series of one-way analyses of variance (ANOVAs) with repeated measures in three different word orders revealed significant main effects of word order on reaction times in the sentences with VP adverbs [ $F_1(2, 46) = 10.17, p < .001$ ;  $F_2(2, 46) = 6.36, p < .01$ ] and the sentences with TP adverbs [ $F_1(2, 46) = 6.70, p < .01$ ;  $F_2(2, 46) = 3.64, p < .05$ ], as well as the sentences with CP adverbs [ $F_1(2, 46) = 14.43, p < .001$ ;  $F_2(2, 46) = 5.76, p < .01$ ]. See Koizumi and Tamaoka (2006) for details.



or SOAV (1530 ms), and the response times for the latter two did not differ significantly. In sentences with TP adverbs, the response times were longer for SOAV (1579 ms) than for ASOV (1419 ms) and SAOV (1401 ms), with the response times for the latter two being comparable. In sentences with CP adverbs, ASOV (1546 ms) was processed faster than SAOV (1657 ms), which in turn was processed faster than SOAV (1848 ms). These results taken together support the analysis of adverb distribution represented in (4)/(13).

## 4 Subject at Spec CP

Word order in Japanese is relatively free, as is partially demonstrated in the previous sections. A widely assumed exception to this flexibility is that the subject cannot undergo scrambling (Saito 1985:211):

### (15) The Ban on Subject Scrambling

In Japanese, the subject cannot undergo scrambling.

Major empirical evidence that originally motivated the constraint in (15) was associated with the paradigm with floating numeral quantifiers (NQs) shown in (16) below (cf. Haig 1980; Kuroda 1980) (For NQs, see also Chapter 15 [Miyagawa, this volume]):

- (16) a. *Gakusei ga san-nin sake o nonda.*  
 student NOM 3-CLF<sub>people</sub> sake ACC drank  
 ‘Three students drank sake.’
- b. \**Gakusei ga sake o san-nin nonda.*  
 student NOM sake ACC 3-CLF<sub>people</sub> drank
- c. *Gakusei ga sake o san-bon nonda.*  
 student NOM sake ACC 3-CLF<sub>bottle</sub> drank
- d. *Sake o<sub>i</sub> Gakusei ga t<sub>i</sub> san-bon nonda.*  
 sake ACC student NOM 3-CLF<sub>bottle</sub> drank

In Japanese, a floating NQ must be locally associated with a noun phrase (NP). In (16a), this locality is fulfilled by the subject NP *gakusei* ‘students’ and the NQ *san-nin* ‘3-CLF<sub>people</sub>’ placed adjacent to each other. In (16b), the NQ occurs distant from its intended associate NP, i.e. the subject, in violation of the locality requirement, thereby yielding an unacceptability. In (16c), the object *sake* ‘sake’ and the NQ associated with it, *san-bon* ‘3-CLF<sub>bottles</sub>’, are adjacent to each other. In (16d),

although the object and its intended associate are separated by the subject NP, the sentence is grammatical. This is because the trace of the object within a VP, indicated as  $t$ , is adjacent to the NQ, thereby fulfilling the locality requirement (Kuroda 1983).

A question then arises as to why (16b) cannot be parsed as in (17), in which the subject as well as the object has undergone scrambling, and the subject trace is locally associated with the NQ.

- (17) *Gakusei ga<sub>i</sub> sake o<sub>j</sub> t<sub>i</sub> san-nin t<sub>j</sub> nonda.*  
 student NOM sake ACC 3-CL<sub>people</sub> drank

In order to rule out the derivation in (17), Saito (1985) proposed the ban on subject scrambling in Japanese (15), which became a standard assumption in later works in this field. Saito suggested that the constraint in (15) should ultimately be derived from more general principles of grammar, and this position has recently been defended by Sugisaki et al. (2007). However, an alternative view on the topic claims that although scrambling of the subject is grammatically possible, the human parser prefers syntactic structures without subject scrambling whenever possible because they are simpler than parallel structures with subject scrambling (Kitagawa 2000; Miyagawa and Arikawa 2007; among others). For example, Miyagawa and Arikawa (2007) argue that (16b) is “standardly” judged ungrammatical because in the neutral, first-pass reading of the sentence, the NQ is (either covertly or overtly) pronounced in the same intonation phrase as the preceding object, which promotes a reading wherein the NQ refers to this object, thereby resulting in a clash in agreement. (16b) improves significantly if a pause is placed between the object and the NQ, encouraging the parser to construct the more complex representation involving subject scrambling, as shown in (17).<sup>7</sup> In this section, we will review two pieces of evidence, presented in Koizumi (2013), that in Japanese, the subject can, in principle, undergo scrambling, consistent with the parsing-based view mentioned above.

We have seen in Section 3 that the canonical word order of transitive sentences with a CP adverb is ASOV and that the other two grammatically possible word orders SAOV and SOAV are derived orders. A question naturally arises as to how the latter two orders are derived. Koizumi and Tamaoka (2006) suggest that they involve the scrambling of the arguments, as shown in (18).

<sup>7</sup> The advent of the VP-internal subject hypothesis in the mid-80s created an additional problem: (3b) can be generated with the subject moving to Spec TP and the object scrambling to the edge of VP (or vP), without subject scrambling. This prompted Ko (2005), for example, to pursue an alternative analysis. We are not concerned with this problem in this chapter. See Ko (2005) and Sabel (2005) as well as Miyagawa and Arikawa (2007) for relevant discussions.


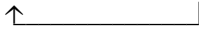
## (18) Analysis I

- a. Structure of (12b):  $[_{CP} \text{Sbj}_i \text{CP-A } [_{TP} t_i [_{VP} \text{Obj } V]]]$   
 b. Structure of (12c):  $[_{CP} \text{Sbj}_i \text{Obj}_j \text{CP-A } [_{TP} t_i [_{VP} t_j V]]]$

In (18a), the fronting of the subject is probably responsible for the longer reading time of (12b) as compared to that of (12a). In (18b), the object as well as the subject has undergone scrambling. The number of scrambling operations is greater in (18b) than in (18a). This may be why (12c) is more difficult to process than (12b). The two structures in (18) crucially involve a scrambling of the subject. Therefore, they are compatible with the claim that in Japanese, the subject can, in principle, undergo scrambling (Ko 2005; Miyagawa and Arikawa 2007; see also Sabel 2005). However, the two structures in (18) exhibit a clear violation of the ban on subject scrambling (15).

A conceivable method of deriving the word orders in (12b, c) without taking recourse to subject scrambling is to invoke a covert movement of the adverb, as shown in (19).

## (19) Analysis II

- a. Structure of (12b):  $[_{CP} [_{TP} \text{Sbj } \text{CP-A } [_{VP} \text{Obj } V]]]$   
  
 b. Structure of (12c):  $[_{CP} [_{TP} \text{Sbj } [_{VP} \text{Obj } \text{CP-A } V]]]$   


In (19), the CP adverb occupies a position lower than its canonical position in CP at the point of Spell-Out and then undergoes covert movement to CP in order to be properly interpreted. These structures and their derivations are consistent with the ban on subject scrambling (15). Under this analysis, (12b) takes longer to be processed than (12a) because it contains a covert movement of the adverb. (12c) takes even longer to be processed because the movement chain is longer in (12c) than in (12b).

Another possible way to derive (12b, c) without relying on subject scrambling would be to entertain the hypothesis that the CP adverbs in these examples are parenthetical expressions. Parenthetical expressions, by definition, do not belong to syntactic representation in the narrow sense, and hence the subject and the object in (12b, c) occupy the same positions as those in (12a). This is schematically represented in (20).

## (20) Analysis III

- a. Structure of (12b):  $[_{CP} [_{TP} \text{Sbj } \uparrow [_{VP} \text{Obj } V]]]$   
 Parenthetical expression: CP-A  
 b. Structure of (12c):  $[_{CP} [_{TP} \text{Sbj } [_{VP} \text{Obj } \uparrow V]]]$   
 Parenthetical expression: CP-A

We might hypothesize that the longer the distance between the “parenthetically inserted position” and the “syntactically determined position” of a parenthetical expression is, the more difficult the sentence is to process.

Given that there are three competing analyses – Analysis I (18), Analysis II (19), and Analysis III (20) – the next question pertains to identifying the empirically correct analysis. The first empirical argument for Analysis I reviewed here concerns indeterminate pronouns. An indeterminate pronoun is a *wh*-phrase that is interpreted as being indefinite, e.g. *any*, in the scope of the universal morpheme *mo*. To arrive at this interpretation, the indeterminate pronoun must be m-commanded by *mo*.<sup>8</sup> When *mo* is attached to a verb, the verb stem raises to *v* but not to *T*, as shown in (21) (Kishimoto 2001).

- (21) [<sub>TP</sub> Sbj<sub>i</sub> [<sub>VP</sub> t<sub>i</sub> [<sub>VP</sub> Obj t<sub>v</sub>] V-*mo-v*] T]

Kishimoto (2001) notes that since *mo* in (21) m-commands the object but not the subject, an indeterminate pronoun can occur in the object position but not in the subject position, as shown in (22).

- (22) a. *Taroo ga nani o kai mo si-nakat-ta.*  
           Taro   NOM what ACC buy MO do-NEG-PST  
           ‘Taro did not buy anything.’  
       b. *\*Dare ga Hanako o home mo si-nakat-ta.*  
           who   NOM Hanako ACC praise MO do-NEG-PST  
           ‘No one praised Hanako.’ (Kishimoto 2001: 600)

Now, consider the following examples with an indeterminate object pronoun and a CP adverb in different positions (23).

- (23) a. ASOV (canonical order with CP-A)  
           *Osoraku Taroo ga dono eiga o mi mo sinakatta.*  
           probably Taro   NOM which movie ACC watch MO didn’t  
           ‘Probably Taro did not watch any movie.’  
       b. SAOV (non-canonical order with CP-A)  
           *Taroo ga osoraku dono eiga o mi mo sinakatta.*  
           Taro   NOM probably which movie ACC watch MO didn’t  
       c. SOAV (non-canonical order with CP-A)  
           *\*Taroo ga dono eiga o osoraku mi mo sinakatta.*  
           Taro   NOM which movie ACC probably watch MO didn’t

<sup>8</sup> X m-commands Y iff the first full-category maximal projection dominating X dominates Y.

The sentences in (23a) and (23b) are grammatical, suggesting that the indeterminate object in these examples, like in (22a), is in a position m-commanded by the universal morpheme *mo* attached to the verb, probably in situ within the VP. In contrast, the sentence with the SOAV word order in (23c) is ungrammatical, indicating that the indeterminate object in this example is outside the m-command domain of *mo*. This is expected under Analysis I (18), in which the object has been moved from within the VP to the CP. In contrast, the paradigm in (23) is difficult to accommodate under Analysis II (19) or Analysis III (20), according to both of which the object occupies its base position regardless of the order in which the CP adverb occurs. Incidentally, note that the SOAV word order with an indeterminate object is grammatical if it contains a VP adverb instead of a CP adverb, as shown in (24).<sup>9</sup>

(24) SOAV (canonical order with VP-A)

*Taroo ga dono eiga o zikkuri mi-mo sinakatta.*

Taro NOM which movie ACC carefully see-MO didn't

'Taro did not see any movie carefully.'

(24) is grammatical because the indeterminate object stays within the VP and is therefore m-commanded by *mo*.

Another argument for the scramblability of the subject is concerned with partial negation. Recall that constituents within a VP are c-commanded by the negation in short negation sentences, but constituents that belong to a TP or a CP are not. Thus, if the universal quantifier *zen'in* 'all' occurs in the object position, it may be interpreted as being inside the scope of the negation, yielding a partial negation reading, i.e. 'not all' (25a). If *zen'in* occurs in the subject position, it is preferentially interpreted as being outside the scope of negation (25b).

(25) a. *Taroo ga zen'in o sikar-anakat-ta.*

Taro NOM all ACC scold-NEG-PST

'Taro did not scold all.' (not > all, all > not)

b. *Zen'in ga Taroo o sikar-anakat-ta.*

all NOM Taro ACC scold-NEG-PST

'All did not scold Taro.' (?not > all, all > not)

The universally quantified object is still interpreted inside the scope of negation if a CP adverb is inserted before the subject, as in (26a), or between the subject and the object, as in (26b). However, the object is difficult, if not impossible, to interpret inside the scope of negation when a CP adverb follows it, as shown in (26c).

<sup>9</sup> In this respect, sentences containing a TP adverb pattern with those containing a CP adverb rather than those containing a VP adverb.

- (26) a. *Osoraku Taroo ga zen'in o sikar-anakat-ta.*  
 probably Taro NOM all ACC scold-NEG-PST  
 'Probably Taro did not scold all.' (not > all, all > not)
- b. *Taroo ga osoraku zen'in o sikar-anakat-ta.*  
 Taro NOM probably all ACC scold-NEG-PST (not > all, all > not)
- c. *Taroo ga zen'in o osoraku sikar-anakat-ta.*  
 Taro NOM all ACC probably scold-NEG-PST (?not > all, all > not)

The difficulty of obtaining the partial negation reading in (26c) suggests that the object has moved out of the VP, as shown in (18) of Analysis I. Again, the partial negation reading will be readily available if the CP adverb in (26c) is replaced with a VP adverb, as shown in (27).<sup>10</sup>

- (27) *Taroo ga zen'in o zikkuri sikar-anakat-ta.*  
 Taro NOM all ACC carefully scold-NEG-PST  
 'Taro did not scold all carefully.' (not > all, all > not)

The sharp contrast between (26c), on the one hand, and, (26a), (26b), and (27), on the other, cannot be easily explained by Analysis II or Analysis III, according to which the object in (26c) occupies the same position as that in the other three examples.

In summary, the nominative subject in Japanese can in principle undergo scrambling to positions higher than Spec TP, such as Spec CP.

## 5 Subject at Spec vP

Traditionally, the subject was defined as an NP immediately dominated by an S node (Chomsky 1957). Thus, when Saito and Hoji (1983) argued that in Japanese, the object is base-generated within the VP (28a) and that when it occurs to the left of the subject, it has undergone scrambling (28b), it was presumed that the subject is in a position directly under the S node throughout the derivation (see also Saito 1985; Hoji 1985).

- (28) a. [<sub>S</sub> S [<sub>VP</sub> O V]]  
 b. [<sub>S</sub> O<sub>i</sub> [<sub>S</sub> S [<sub>VP</sub> t<sub>i</sub> V]]]

<sup>10</sup> TP adverbs behave like CP adverbs rather than VP adverbs in this respect, too.

However, according to the Internal Subject Hypothesis, the “base” or “thematic” position of the subject (i.e. the external argument), as well as that of the object (i.e. the internal argument), is within the VP (Fukui 1986; Kitagawa 1986; Koopman and Sportiche 1988; Kuroda 1988), and when the subject is outside the VP, it has moved from its base position for some reason. For example, the Extended Projection Principle (EPP) requires that every clause have a subject occupying the canonical subject position, that is, that Spec TP be filled with a nominal element (Chomsky 1981). In research on Japanese, it is now a standard analysis that the subject in a canonically ordered SOV sentence moves from its thematic position to its derived position, Spec TP, as shown in (29a) or (29b), where a more recent proposal of a VP/vP distinction is also adopted (Miyagawa 2001; Kishimoto 2001).

- (29) a.  $[_{TP} S_i [_{VP} t_i OV]]$   
       b.  $[_{TP} S_i [_{vP} t_i [_{VP} OV]]]$

The discussions in the previous sections were also based on this assumption, although the presence of a subject trace within the VP/vP was not explicitly mentioned because it was not relevant.

For Japanese OSV sentences, there are at least two competing analyses with respect to the placement of the subject. One is that the subject in OSV sentences, similar to the subject in SOV sentences, obligatorily moves to Spec TP, and the object moves to an even higher position, as shown in (30) (cf. Saito 2003, etc.).

- (30) Analysis 1:  $[_{TP} O_j S_i [_{vP} t_i [_{VP} t_j V]]]$

Although this structure contains a vP-internal subject trace, it is fairly similar to the traditional structure presented in (28b) above. Therefore, it can be considered an updated version of the traditional structure.

A more innovative analysis was proposed by Miyagawa (2001), according to which the subject stays in its base position within the vP, and only the object moves to Spec TP, as shown in (31) (See also Kuroda 1988).

- (31) Analysis 2:  $[_{TP} O_i [_{vP} t_i' S [_{VP} t_i V]]]$

Note that the derivation of this structure involves two movements of the object: First, the object moves to the edge of vP, which is necessary for locality reasons, and second, it moves to Spec TP (Miyagawa 2001; Miyagawa and Arikawa 2007). Hence, OSV (31) has a more costly derivation than SOV word order (29).

Part of the evidence for the proposal that the subject may stay in the vP, as in (31), comes from the scope interpretation. Recall that constituents within a vP (= former VP) are c-commanded by the negation in short negation sentences; however, this is not the case with constituents that belong to a TP or CP. Thus, if the

universal quantifier *zen'in* 'all (members)' occurs in the object position of SOV sentences, it may be interpreted as being inside the scope of negation, thereby yielding a partial negation reading, that is, 'not all' (25a). If *zen'in* occurs in the subject position, it is interpreted as being outside the scope of negation (25b). Significantly, Miyagawa (2001: 299) observed that if the object scrambles across the subject *zen'in*, partial negation becomes easier to obtain with appropriate prosody, as exemplified in (32) (see also Miyagawa 2006; Miyagawa and Arikawa 2007).

- (32) a. *Zen'in ga sono tesuto o uke-nakat-ta (yo/to omou)*  
 all NOM that test ACC take-NEG-PST  
 'All didn't take that test.' (??not > all; all > not)
- b. *Sono tesuto o<sub>i</sub> zen'in ga t<sub>i</sub> uke-nakat-ta (yo/to omou)*  
 that test ACC<sub>i</sub> all NOM t<sub>i</sub> take-NEG-PST  
 'That test, all didn't take.' (✓/??not > all; all > not)

Miyagawa (2001) argued that the partial negation interpretation of (32b) is readily explained if we assume that its subject occupies a vP-internal position (as in (31)) that is c-commanded by the negation. Unfortunately, however, the judgment here is subtle and apparently subject to idiolectal variation. More solid evidence is called for in order to evaluate the competing hypotheses.

Koizumi and Tamaoka (2010) attempted to resolve this issue by adopting a psycholinguistic approach. As we have seen in Section 3, other things being equal, sentences involving an instance of scrambling are more difficult to process than their counterparts without an instance of scrambling (Assumption 1). Furthermore, the canonical positions for the so-called VP adverbs such as manner and resultative adverbs are within the VP. As such, when VP adverbs occur outside the VP, they have undergone scrambling (Assumption 2). Given these assumptions, the two competing analyses in (30) and (31) create different predictions for the processing of OSV sentences with VP adverbs in three different positions, such as those in (33).

- (33) a. AOSV: *Yukkuri sinbun o Taroo ga yonda.*  
 slowly newspaper ACC Taro NOM read  
 'Taro read a newspaper slowly.'
- b. OASV: *Sinbun o yukkuri Taroo ga yonda.*  
 newspaper ACC slowly Taro NOM read
- c. OSAV: *Sinbun o Taroo ga yukkuri yonda.*  
 newspaper ACC Taro NOM slowly read

Before discussing the predictions, however, it is necessary to make Assumption 2 more precise. We have seen in Section 3 that VP adverbs may be base-generated to



either the left or right of the base position of the object within VP. It is not yet clear, at this point, if they can be base-generated within vP, as shown in (34a), or if they cannot, as shown in (34b).

(34) Base positions of VP-adverbs: Two versions of Assumption 2

- a. Assumption 2a:  $[_{vP} (A) S (A) [_{VP} (A) O (A) V]]$
- b. Assumption 2b:  $[_{vP} S [_{VP} (A) O (A) V]]$

We will therefore consider both possibilities in the following discussion.

Let us now turn to the predictions of Analysis 1 and Analysis 2 for the processing of OSV sentences with VP adverbs. In Analysis 1, with either Assumption 2a or Assumption 2b, the VP adverb *yukkuri* ‘slowly’ occupies its base position within the vP in the OSAV construction and has undergone scrambling in the other two orders. This is schematically represented in (35). (The traces of the arguments are omitted, and ( $t_i$ ) stands for the trace of the adverb that would be left within the VP under Assumption 2b.)

(35) Schematic structures of the sentences in (33) in Analysis 1:

- a.  $[_{TP} A_i O S [_{vP} \dots t_i' \dots [_{VP} \dots (t_i) \dots V]]]$
- b.  $[_{TP} O A_i S [_{vP} \dots t_i' \dots [_{VP} \dots (t_i) \dots V]]]$
- c.  $[_{TP} O S [_{vP} \dots A \dots V]]$

Thus, Analysis 1 predicts that AOSV and OASV are more difficult to process than OSAV.

Analysis 2 makes different predictions with Assumption 2a and Assumption 2b. With Assumption 2a, both OASV and OSAV are canonical word orders with respect to the adverb placement, and AOSV alone involves adverb scrambling, as shown in (36).

(36) Schematic structures of the sentences in (33) in Analysis 2 with Assumption 2a:

- a.  $[_{TP} A_i O [_{vP} \dots t_i S [_{VP} \dots V]]]$
- b.  $[_{TP} O [_{vP} \dots AS [_{VP} \dots V]]]$
- c.  $[_{TP} O [_{vP} \dots SA [_{VP} \dots V]]]$

It is then expected that AOSV is more difficult to process than both OASV and OSAV.

With Assumption 2b, in contrast, AOSV involves two movements of the adverb: a movement to the edge of vP and a movement to Spec TP from the vP edge. OASV involves a movement of the adverb across the subject within vP. OSAV is a canonical word order with respect to the adverb. This is schematically shown in (37), which

predicts that AOSV is more difficult to process than OASV, which in turn is more demanding than OSAV.

(37) Schematic structures of the sentences in (38) in Analysis 2 with Assumption 2b:

- a.  $[_{TP} A_i O [_{VP} t_i' \dots S [_{VP} t_i \dots V]]]$
- b.  $[_{TP} O [_{VP} \dots A_i S [_{VP} \dots t_i \dots V]]]$
- c.  $[_{TP} O [_{VP} \dots S [_{VP} \dots A \dots V]]]$

The predictions regarding the cognitive load associated with the processing of sentences like (33) are summarized in (38).

(38) Predicted processing load

- a. Analysis 1 with Assumption 2a or 2b: AOSV = OASV > OSAV
- b. Analysis 2 with Assumption 2a: AOSV > OASV = OSAV
- c. Analysis 2 with Assumption 2b: AOSV > OASV > OSAV

Koizumi and Tamaoka (2010) tested these predictions by conducting an experiment with a sentence plausibility judgment task that involved whole sentence reading (cf. Chujo 1983; Tamaoka et al. 2005). Semantically plausible triplets such as those in (33) were constructed using VP adverbs. The stimuli were presented to the participants in random order in the center of a computer screen, one sentence at a time. The participants were instructed to judge whether or not the sentences made sense and report their response as quickly and accurately as possible by pressing either a “yes” or a “no” button. The duration from the stimulus presentation to the button press was recorded as the response time.

Overall, transitive sentences in which the object precedes the subject took longer to process in AOSV (1695 ms) than in OASV (1550 ms) or OSAV (1590 ms), and the processing times for the latter two were comparable, as indicated in (39).<sup>11</sup>

(39) Overall reaction times

AOSV > OASV = OSAV

The results of the experiment summarized in (39) are consistent with the prediction of Analysis 2 with Assumption 2a (i.e. (38b)), but not with the prediction of Analysis 2 with Assumption 2b (38c) or that of Analysis 1 (38a). Most importantly, OASV word order was significantly less difficult to process than AOSV word order, contrary to

<sup>11</sup> A series of ANOVAs with repeated measures in three different word orders revealed significant main effects of word order on reaction times [ $F_1(2, 64) = 13.911, p < .001$ ;  $F_2(2, 94) = 4.280, p < .05$ ]. See Koizumi and Tamaoka (2010) for details.

the prediction of Analysis 1. This suggests that the subjects of Japanese transitive sentences may stay in the vP when they follow the objects, as has been argued and defended in a series of papers by Miyagawa (e.g. Miyagawa 2001, 2003). This, in turn, supports the central premise of the Internal Subject Hypothesis; that is, the base position of the external argument is within the vP rather than outside it to begin with. Furthermore, the comparable reaction times for OASV and OSAV are consistent with Assumption 2a but not with Assumption 2b, indicating that VP adverbs can be externally merged to the left of the base position of the subject within the vP.<sup>12</sup>

## 6 Subject at Spec TP

Thus far, we have assumed that the subject always moves to Spec TP in canonically ordered SOV sentences. However, there exists a differing view. According to some researchers, the subject in Japanese stays within the VP throughout the derivation, regardless of whether it precedes or follows the object (Fukui 1986; Kuroda 1988). Let us consider whether this proposal can account for the experimental results reviewed in Section 5. With respect to this particular version of the Internal Subject Hypothesis, the discussion in Section 3 needs to be reinterpreted in such a way that VP adverbs initially occur in the “lower part of VP” and TP adverbs, in the “higher part of VP”, as shown in (40).

(40) [<sub>VP</sub> (TP-A) S (TP-A) [<sub>V'</sub> (VP-A) O (VP-A) V]]

When the object undergoes scrambling as shown in (41), the subject stays in the same position as the subject in (40).

(41) Analysis 3: O<sub>i</sub> S [<sub>V'</sub> (VP-A) t<sub>i</sub> (VP-A) V]

We shall refer to this analysis as Analysis 3. In Analysis 3, the VP adverb occupies its canonical position in OSAV sentences, such as (33c) above, and the adverb has undergone scrambling in AOSV sentences, such as (33a), as well as in OASV sentences, such as (33b), as indicated in (42). (The object trace is not represented.)

(42) Schematic structures of the sentences in (33) in Analysis 3

- a. A<sub>i</sub> O S [<sub>V'</sub> ... t<sub>i</sub> ... V]]
- b. O A<sub>i</sub> S [<sub>V'</sub> ... t<sub>i</sub> ... V]]
- c. O S [<sub>V'</sub> ... A ... V]]

<sup>12</sup> This by no means entails that the structure in (35), in which the subject as well as the object has moved out of the vP, is impossible to attain. On the contrary, there is good reason to believe that Japanese grammar allows not only the structures in (36) but also those in (35). If so, the argument in the text still holds true. See Koizumi and Tamaoka (2010) for details.

Because (42a) and (42b) involve adverb scrambling and are therefore more syntactically complex than (42c), it is predicted that sentences with a VP adverb are more difficult to process in AOSV and OASV than in OSAV (43).

(43) Predicted processing load:

Analysis 3: AOSV = OASV > OSAV

The prediction of Analysis 3 shown in (43) is identical to the prediction of Analysis 1 shown in (38a), and it is crucially incompatible with the results of the experiment reviewed in Section 5 (Koizumi and Tamaoka 2010). This shows that Analysis 3 cannot account for the distribution of Japanese adverbs and their processing data. In other words, the nominative subjects of transitive sentences in Japanese must move to Spec TP when they precede objects, suggesting that Japanese T (or C) has the EPP feature, requiring that Spec TP be filled with a nominal element.

## 7 Non-nominative subjects

### 7.1 Kara-subject

Consider the sentences in (44). In (44a), the subject is marked with the nominative marker *ga*. In contrast, the subject is marked with the postposition *kara* in (44b) (See also Chapter 12 [Kishimoto, this volume] for this construction).

(44) a. *Watasi ga Minori ni zizyoo o setumeisimasu.*

I            NOM Minori    DAT situation    ACC explain

‘I will explain the situation to Minori.’

b. *Watasi kara Minori ni zizyoo o setumeisimasu.*

I            from Minori    DAT situation    ACC explain

The *ga-kara* ‘NOM-from’ alternation is possible with a certain class of verbs, typically three place verbs that take the *ga-ni-o* case pattern, an animate agentive subject, and an animate goal *ni*-phrase (Inoue 2001; Ito 2001). The *kara*-phrase of this kind is a grammatical subject in the sense that it may be the target of subject honorification and the antecedent of the reflexive *zibun* ‘self’, as exemplified in (45).

(45) a. *Sensei ga/kara kodomotati ni mondai no hinto o*

teacher NOM/from children    DAT question GEN tips    ACC

*o-atae-ni natta.*

gave (SBJ-HON)

‘The teacher gave tips for the question to the children.’

- b. *Anata<sub>i</sub> ga/kara okaasan ni zibun<sub>i</sub> no keikaku o*  
 you NOM/from mother DAT self GEN plan ACC  
*setumeisi-nasai.*  
 explain-IMP  
 ‘Explain your plan to your mother (from yourself).’

Ueda (2003) argued that the alternating subjects are placed in syntactically different positions: The *ga*-marked subject is outside vP, whereas the *kara*-marked subject is in the vP-internal subject position. Ueda presented three arguments in support of her claim. The first evidence has to do with causative sentences. In Japanese causative sentences like those in (46), a VP-adverb, but not a TP-adverb or CP adverb, can occur in the embedded clause denoting the caused event (Koizumi 1991). In (46b, c), the adverbs may only be associated with the matrix causative verb.

(46) a. VP-adverb

*Minori ga [Megumi ni yukkuri hon o yom]-ase-ta.*  
 Minori NOM Megumi DAT slowly book ACC read-CAUS-PST  
 ‘Minori made [Megumi read a book slowly].’

b. TP-adverb

*Minori ga Megumi ni kinoo hon o yom-ase-ta.*  
 Minori NOM Megumi DAT yesterday book ACC read-CAUS-PST  
 \*‘Minori made [Megumi read a book yesterday].’  
 ‘Minori made [Megumi read a book] yesterday.’

c. CP-adverb

*Minori ga Megumi ni saiwai hon o yom-ase-ta.*  
 Minori NOM Megumi DAT fortunately book ACC read-CAUS-PST  
 \*‘Minori made [Megumi read a book fortunately].’  
 ‘Minori made [Megumi read a book] fortunately.’

Given the discussions in Section 3 and Section 5, this suggests that the embedded clause of causative sentences of this kind is not a TP or CP. Rather it is a vP (cf. Koizumi 1991; Harley 2008). Not surprisingly, the embedded subject cannot be marked with the nominative *ga*, which needs to be licensed by T. More interestingly, it may be marked with *kara*, as shown in (47) (Ueda 2003).

- (47) *Taroo wa [watasi kara Mary ni kanozyo no byoozyoo o*  
 Taro TOP I from Mary DAT her GEN condition ACC  
*setumei-s]/-(s)ase-ta.*  
 explain-do-cause-PST  
 ‘Taro made me explain her condition to Mary.’ (Ueda 2003)

Ueda considered this as evidence that the *kara*-subject may occur vP-internally at the point of Spell-Out.

Ueda's second argument is concerned with variable binding. As shown in (48), the bound variable interpretation with overt personal pronouns is impossible with the *ga*-subject, but it is possible with the *kara*-subject (Ueda 2003).

- (48) a. \**Daremo<sub>i</sub> ga [karera<sub>i</sub> ga Taroo o sikaru to] it-ta.*  
 everyone NOM they NOM Taro ACC scold that say-PST  
 \*'Everyone<sub>i</sub> said that they<sub>i</sub> will scold Taro.'
- b. *Daremo<sub>i</sub> ga [karera<sub>i</sub> kara Taroo o sikaru to] it-ta.*  
 everyone NOM they from Taro ACC scold that say-PST  
 'Everyone<sub>i</sub> said that they<sub>i</sub> will scold Taro.'

This contrast is naturally accounted for if we assume that the *ga*-subject occupies a vP-external A'-position whereas the *kara*-subject is in a vP-internal A-position, Ueda argued.<sup>13</sup>

Finally, Ueda observed that unlike the *ga*-subject, the *kara*-subject may scopally interact with the object, suggesting that it is structurally closer to the object than the *ga*-subject, as in (49).

- (49) a. *ga*-subject: (some > every, \*every > some)  
*Dareka ga dono tegami mo okut-te-oi-te-kudasai.*  
 someone NOM every letter send-TE-put-TE-imperative  
 'I hope that there is someone who sends every letter.'  
 \*'I hope that each letter is sent by someone.'
- b. *kara*-subject: (some > every, every > some)  
*Dareka kara dono tegami mo okut-te-oi-te-kudasai.*  
 someone from every letter send-TE-put-TE-imperative  
 'I hope that there is someone who sends every letter.'  
 'I hope that each letter is sent by someone.'

In summary, the *ga*-subject and *kara*-subject seem to be placed in different syntactic positions. Unlike the *ga*-subject in Spec TP, the *kara*-subject is in a lower position, possibly in Spec vP.

<sup>13</sup> The validity of this second argument is a debatable point, given Hoji's (1991) claim that, being referential, *kare* cannot be a bound variable. Thus, the conclusion that the *ga*-subject always occupies an A'-position needs further consideration.

## 7.2 Genitive subject

The subject of relative clauses and noun-complement clauses may appear with either the nominative case marker *ga* or genitive case marker *no*, as exemplified in (50) (For a review of this construction, see Chapter 18 [Ochi, this volume]).

- (50) a. [*Minori ga/no katta*] *hon*  
 Minori NOM/GEN bought book  
 ‘the book that Minori bought’
- b. [*kinoo Megumi ga/no kita*] *riyuu*  
 yesterday Megumi NOM/GEN came reason  
 ‘the reason Megumi came yesterday’

Much the same way as the nominative subject, the genitive subject may trigger subject honorification and antecede the reflexive *zibun* ‘self’, showing that the genitive subject is indeed a grammatical subject (51).

- (51) a. [*Tigusa sensei ga/no o-kaki-ni natta*] *e*  
 Chigusa professor NOM/GEN drew (SBJ-HON) picture  
 ‘the picture that Prof. Chigusa drew’
- b. [*Hanako ga/no zibun de yaita*] *kukkii*  
 Hanako NOM/GEN self by baked cookie  
 ‘the cookies that Hanako baked herself’

Since Harada (1971), the alternation between *ga* and *no*, often called the *ga/no* conversion, has attracted much attention in generative grammar (cf. Maki and Uchibori 2008). One of the central issues concerning the *ga/no* conversion is the syntactic position of the genitive subject. Some researchers hypothesize that the genitive subject occupies the same position as the nominative subject, i.e. Spec TP, at the point of Spell-Out (e.g. Hiraiwa 2005), whereas others propose that the genitive subject remains in its thematic position, i.e. Spec vP (Miyagawa 2011; see also Watanabe 1996). This is schematically shown in (52) and (53).

- (52) Identical syntactic structure (Hiraiwa 2005):

[<sub>DP</sub> [<sub>CP</sub> [<sub>TP</sub> subject NOM/GEN [<sub>vP</sub> ...]]]]

- (53) Different syntactic structures (Miyagawa 2011)

a. [<sub>DP</sub> [<sub>CP</sub> [<sub>TP</sub> subject NOM [<sub>vP</sub> ...]]]]

b. [<sub>DP</sub> [<sub>TP</sub> [<sub>vP</sub> subject GEN ...]]]]

According to Miyagawa (2011), clauses with the genitive subject lack CP. T in such a clause does not inherit any formal grammatical features from C (such as an EPP feature). T thus does not trigger movement of the subject (or any other element), and this is why the genitive subject stays in its original vP internal position.

One of the phenomena Miyagawa (2011) brought up to support his proposal is concerned with adjacency. As originally observed by Harada (1971), placing items between the genitive subject and the predicate sometimes leads to degradation in acceptability (54b). Note that the nominative subject is fine with intervening elements (54a).<sup>14</sup>

- (54) a. *Kodomotati ga minnade kake-nobotta kaidan*  
 children NOM together run-climb.up stairway  
 ‘the stairway which those children ran up together vigorously’
- b. ??*Kodomotati no minnade kake-nobotta kaidan*  
 children GEN together run-climb.up stairway

Given the basic structure in (53b), in order for the genitive subject to precede an adjunct whose basic position is outside vP, the subject must have undergone movement across the adjunct (55). According to Miyagawa (2011), this movement is unmotivated and hence uneconomical, leading to the degradation in grammaticality.

- (55) [<sub>TP</sub> Subject<sub>i</sub> GEN adjunct [<sub>vP</sub> t<sub>i</sub> ...]]

Miyagawa’s proposal makes clear predictions: (i) Adjuncts attached higher than Spec vP may not intervene between the genitive subject and verb, and (ii) VP adjuncts may occur either to the left or to the right of the genitive subject (56).

- (56) a. [<sub>TP</sub> TP-adjunct [<sub>vP</sub> Subject<sub>i</sub> GEN ...]]  
 b. \*[[<sub>TP</sub> Subject<sub>i</sub> GEN TP-adjunct [<sub>vP</sub> t<sub>i</sub> ...]]]  
 c. [<sub>TP</sub> [<sub>vP</sub> VP-adjunct Subject<sub>i</sub> GEN ...]]  
 d. [<sub>TP</sub> [<sub>vP</sub> Subject<sub>i</sub> GEN VP-adjunct ...]]

To test these predictions, Nambu and Nakatani (2014) conducted a rating experiment using a 5-point scale (1: very unnatural, 5: very natural). The adjacency factor (adjacent

<sup>14</sup> (54b) has an alternative parse, in which the genitive phrase, rather than being the subject, directly modifies the head noun, interpreted as ‘children’s stairway.’ This possibility is irrelevant to the discussion of subject positions here.



vs. non-adjacent) and the case factor (*ga* vs. *no*) were manipulated in a  $2 \times 2$  design. In their test items, adjuncts attached higher than Spec vP were used, as illustrated in (57).<sup>15</sup>

(57) a. Adjacent condition (adjuncts underlined)

Kyoo zyuku de kodomotati *ga/no* *naratta*  
today cram.school at children NOM/GEN studied

*rekisi wa Heianzidai nituite dat-ta.*

history TOP Heian.period about COP-PST

‘The history that the children studied at a cram school today is about the Heian period.’

b. Non-adjacent condition (adjuncts underlined)

*Kodomotati ga/no kyoo zyuku de naratta rekisi wa*  
children NOM/GEN today cram.school at studied history TOP

*Heianzidai nituite dat-ta.*

Heian.period about COP-PST

The results showed that the acceptability of the genitive subject was degraded in the non-adjacent condition, whereas that of the nominative subject was not affected by the adjacency factor, consistent with Miyagawa’s first prediction. In order to examine the locus of the effects, Nambu and Nakatani (2014) also conducted an experiment with a moving-window, self-paced reading task, using the identical materials. The results of the self-paced reading task revealed a significant slowdown in the genitive/non-adjacent condition compared with the nominative/non-adjacent condition, in the region containing the TP adjunct (e.g. *kyoo* ‘today’) and the following region with the locative adjunct (e.g. *zyuku-de* ‘cram.school-at’). In their third experiment, Nambu and Nakatani used VP adjuncts (manner adverbs) instead of TP adjuncts, in which comparable slowdown effects were not observed in the region with the manner adverb.

The results from the three experiments above are readily accounted for by Miyagawa’s (2011) hypothesis, as in (53), while they are not easily explained by the theories that do not structurally distinguish the nominative and genitive subjects, as in (52).

<sup>15</sup> As shown in Section 3, temporal adverbs such as *kinoo* ‘yesterday’ are TP adjuncts, which may occur either to the left or to the right of the nominative subject. Locative adverbs such as *zyuku-de* ‘cram.school-at’ seem to be adjoined to vP, as schematically shown in (i) (cf. Tamaoka et al. 2004).

(i) [<sub>TP</sub> (temporal adv) Subj NOM (temporal adv) [<sub>vP</sub> (locative adv) [<sub>vP</sub> Subj GEN VP]]]

## 8 Conclusion

In this chapter, we have considered the syntactic positions of nominative and non-nominative subjects in Japanese. In Section 4, we saw that the nominative subject occurs in CP when it precedes a CP adverb. This supports the view that the subject in Japanese can, in principle, undergo scrambling. In Section 5, we reviewed a psycholinguistic study whose results suggest that the nominative subject may stay in Spec vP in OSV sentences, in which the object alone must move to Spec TP. Then, in Section 6, we showed that the nominative subject in SOV sentences cannot stay within vP and must raise to TP. Taken together, the conclusions of Sections 5 and 6 suggest that T in Japanese sentences with a nominative subject has the property of attracting a nominal category to its Spec. Thus, the subject raises to Spec TP in SOV sentences, whereas the object does so in OSV sentences. Finally, in Section 7, we turned to non-nominative subjects and briefly reported two preliminary studies, one on the *kara*-subject and one on the genitive subject. It was argued that, in contrast to the nominative subject, the *kara*-subject and genitive-subject do not seem to raise. Rather, what evidence we have suggests that they remain in situ at their thematic position, i.e. Spec vP.

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## 15 Numeral quantifiers

### 1 Introduction

In Japanese, any expression for counting people, animals, or things invariably contains a numeral quantifier (NQ). A numeral quantifier consists of a numeral and a classifier (CLF) that agrees with the type of entity being counted. Two examples are *-nin* for people and *-satu* for bound volumes such as books and magazines.

- (1) *Gakusei ga san-nin kita.*  
student NOM 3-CLF came  
'Three students came.'
- (2) *Hanako ga hon o ni-satu yonda.*  
Hanako NOM book ACC 2-CLF read  
'Hanako read two books.'

While over 150 classifiers are attested in the language, the classifiers that people use on a daily basis number less than 30 (Downing 1984: 12–15). The NQ may occur in four different configurations relative to the associated NP, as shown by the following examples with the identical meaning 'three students came'.

- (3) a. [*San-nin no gakusei*] *ga kita.*  
3-CLF GEN students NOM came
- b. [*Gakusei san-nin*] *ga kita.*  
students 3-CLF NOM came
- c. *Gakusei ga san-nin kita.*  
student NOM 3-CLF came
- d. *San-nin gakusei ga kita.*  
3-CLF students NOM came

In (3a) the NQ occurs in the modifier position of the associated NP and is marked with the genitive case marker, while in (3b) the NQ apparently heads the phrase that contains the associated NP. In both of these cases the NQ occurs in the same phrase as the associated NP. In (3c) the NQ occurs after the case-marked associated NP, and is commonly analyzed as an instance of floating NQ (FNQ), although if it occurs adjacent to the case marker, as is the case in (3c), it is also analyzed as heading the phrase that contains the associated NP (Kamio 1977; Terada 1990;

Kawashima 1998; Watanabe 2006; Miyagawa and Arikawa 2007). The fourth configuration, in which the FNQ occurs in front of the associated NP, but without any marking on it, is considered as the FNQ having scrambled from the configuration in (3c) (see relevant discussion in, for example, Fukushima 1991; Gunji and Hashida 1998; Kawashima 1998). I will focus particularly on the configuration in (3c) in which the FNQ occurs after the case-marked associated NP.

## 2 Mutual c-command requirement

What is the generalization across the four configurations we saw above? Based on a number of earlier works (e.g. Shibatani 1977; Inoue 1978; Haig 1980; Kuroda 1980), I argued in Miyagawa (1989) that the relation between the NQ and its associated NP is a strictly local one requiring each to c-command the other.<sup>1</sup>

### (4) Mutual c-command requirement

The NP or its trace and the NQ or its trace must c-command each other.

(Miyagawa 1989: 30)

This is clear for the first two configurations in which the NQ and the associated NP are in the same phrase. For the third configuration, in which the FNQ follows the case-marked associated NP, I argued for a ternary-branching structure that allows a FNQ and the subject NP to mutually c-command each other.

### (5) [<sub>TP</sub> NP-*ga* NQ VP]

The fourth configuration is derived from the third configuration by scrambling the FNQ to the left of the associated NP, leaving behind a trace that maintains the mutual-command relation with the associated NP (Miyagawa 1989).

### (6) [<sub>TP</sub> NQ<sub>i</sub> [<sub>TP</sub> NP-*ga* t<sub>i</sub> VP]]

In Miyagawa and Arikawa (2007), we revised the ternary-branching approach in Miyagawa (1989), and suggested, along the lines of a number of earlier works (e.g. Watanabe 2006), that the *NP-Case NQ* sequence may form a constituent, with the NQ heading a NumP.

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<sup>1</sup> The mutual c-command requirement comes from the assumption that the FNQ is a secondary predicate, which has been argued to be subject to strict locality (Williams 1990).



(7) [<sub>NumP</sub> NP-Case NQ]

I will assume this structure for the discussion below.

The mutual c-command requirement finds support in a variety of constructions. It has been noted that a FNQ cannot be associated with an NP inside adjuncts (Okutsu 1969; Harada 1976; Shibatani 1977; Inoue 1978; Kuno 1978), something that follows from the mutual c-command requirement because an adjunct, such as a PP, projects a maximal projection that blocks the NP inside it from c-commanding the FNQ.

(8) \*[… [<sub>PP</sub> [NP] P] FNQ…]

In a similar vein, an associated NP in the specifier of a larger NP cannot c-command a FNQ.<sup>2</sup>

- (9) \*[*Sensei no hon*] *ga san-nin todoita*.  
 teacher GEN book NOM 3-CLF<sub>HUMAN</sub> arrived  
 Intended: ‘Three teachers’ books arrived.’

## 2.1 A-movement analysis of stranding FNQ

The standard paradigm for FNQ that led to a number of proposals from a variety of theoretical perspectives is given below (see Miyagawa and Arikawa 2007).

## (10) Standard paradigm

- a. *Gakusei ga san-nin sake o nonda*.  
 student NOM 3-CLF<sub>SBJ</sub> sake ACC drank  
 ‘Three students drank sake.’

- b. \**Gakusei ga sake o san-nin nonda*.  
 student NOM sake ACC 3-CLF<sub>SBJ</sub> drank  
 ‘Three students drank sake.’

(Haig 1980, Kuroda 1980)

<sup>2</sup> Kikuchi (1994) notes one interesting exception, in which NPs in an inalienable possession relation are allowed to be construed with a FNQ despite the apparent violation of mutual c-command.

- (i) *Ano isya wa [zidoo no me] o sanzyuu-nin sirabeta*.  
 that doctor TOP pupil GEN eye ACC 30-CLF examined  
 ‘That doctor examined thirty pupil’s eyes.’

Kikuchi (1994), Takami (2001), and Nakanishi (2008) point to these as counterexamples to the mutual c-command requirement, but because they occur in highly restricted cases involving inalienable possession, it would be interesting to pursue the possibility that these are exceptional cases, something that I will not pursue in this chapter. I should note that not all speakers accept this type of sentence. The reviewer of this chapter informs me that she finds it almost ungrammatical.

- c. *Hon o gakusei ga go-satu katta.*  
 book ACC student NOM 5-CLF<sub>OBJ</sub> bought  
 ‘Students bought five books.’ (based on Haig 1980; Kuroda 1980)

In (10a) the associated NP, the subject “students”, and the FNQ are adjacent to each other. In (10b), the subject “students” and the FNQ are separated by the object, and it is judged as ungrammatical. In (10c), which is grammatical, the object “books” and its FNQ are separated by the subject. The subject/object asymmetry indicates that while there is no trace of the subject in the VP to support a stranded FNQ, the object to the left of the subject has been moved there by scrambling, leaving a trace. This trace supports the FNQ (cf. Kuroda 1980; Saito 1985). The structures for (10b) and (10c) are as shown below; I will ignore the VP-internal subject position until I take it up in the next section.

- (11) a.  $*[_{TP} \text{ student} \dots [_{VP} \text{ sake FNQ}_{\text{SBJ}} \dots ]]$   
 b.  $[_{TP} \text{ book}_i \dots \text{ student} \dots [_{VP} \text{ t}_i \text{ FNQ}_{\text{OBJ}} \dots ]]$

Miyagawa (1989) extends the insight particularly of Kuroda (1980) that the movement of the associate NP away from its FNQ does not hinder fulfillment of the locality condition because the copy of the associated NP occurs adjacent to the FNQ (see also Saito 1985). This is an instance of FNQ stranding. A similar observation has been made in English and French (Sportiche 1988) as well as West Ulster English (McCloskey 2000).

An important point that comes out of the locality-based analysis of FNQs is that we get clear evidence for NP trace. NP trace is an entity that is predicted to occur, but it is empirically difficult to ascertain. The crucial examples are presented in (12), where a FNQ can be associated with the subject of a passive or an unaccusative verb, but not with the subject of a transitive or an unergative verb.

- (12) a. Transitive  
*\*Doroboo ga kuruma o san-nin nusunda.*  
 thief NOM sake ACC 3-CLF stole  
 ‘Three thieves stole a car.’
- b. Direct passive  
*Kuruma ga doroboo ni ni-dai nusum-are-ta.*  
 car NOM thief by 2-CLF steal-PASS-PST  
 ‘Two cars were stolen by a thief.’ (Miyagawa 1989: 38; also Ueda 1986)
- c. Unaccusative  
*Gakusei ga ofisu ni huta-ri ki-ta.*  
 student NOM office to 2-CLF came  
 ‘Two students came to the office.’ (Miyagawa 1989: 43)

## d. Unergative

*\*Tomodati ga tookyoo de huta-ri atta.*  
 friend NOM Tokyo in 2-CLF met  
 ‘Two friends met in Tokyo.’

In (12b) and (12c), which are passive and unaccusative examples, the nominative subject may be construed with the FNQ in the VP, while in the transitive and the unergative cases in (12a) and (12d), stranding of the subject-oriented FNQ inside the VP leads to ungrammaticality. The contrast between (12b/c) and (12a/d) is due to the fact that in the passive and the unaccusative cases, there is an NP trace of the surface subject in the VP, as is schematized in (13), while no such NP trace occurs in the VP in the transitive and unergative cases.

(13)  $[_{TP} DP_1 \dots [_{VP} t_i \text{ FNQ } \dots]]$

This parallels the object scrambling case noted by Kuroda and others in which the copy of the object scrambled out of VP may fulfill the locality requirement with the FNQ inside the VP. Moreover, while the direct passive leaves a NP trace that fulfills the locality requirement with the FNQ, the indirect passive does not involve any movement (Kuno 1973). As a result, the indirect passive does not allow stranding of FNQ inside the VP (Miyagawa 1989).

(14) *\*Tomodati ga ame ni huta-ri hur-are-ta.*  
 friend NOM rain DAT 2-CLF fall-PASS-PST  
 ‘Two friends were rained on.’

Finally, there are motion-type verbs such as ‘cross’ in which the traversed entity is marked by the accusative, yet a FNQ is allowed to be stranded in the VP (Miyagawa 1989).

(15) *Kodomo ga hasi o huta-ri watatta.*  
 child NOM bridge ACC 2-CLF crossed  
 ‘Two children crossed the bridge.’

This type of verb is a “transitive” unaccusative verb, and it differs sharply from a normal transitive verb such as ‘drink’, which does not allow stranding a FNQ inside the VP. An independent support for the difference is found with quantifier scope. Japanese is a scopally rigid language, so that subject and object quantifiers in a normal transitive construction are scopally unambiguous (Kuroda 1970; Hoji 1985).

(16) *Dareka ga dono-hon-mo yonda.*  
 someone NOM every book read  
 ‘Someone read every book.’ some > all, \*all > some

As Kuroda noted, scope ambiguity obtains if one quantifier is moved across the other, as in scrambling of the object across the subject.

- (17) *Dono-hon-mo<sub>i</sub> dareka ga t<sub>i</sub> yonda.*  
 every book someone NOM read  
 some > every, every > some

If we look at the “transitive” unaccusative construction, we see that scope ambiguity is possible in the regular SOV order, indicating that the subject has moved across the object.

- (18) *Dareka ga dono-hasi-mo watatta.*  
 someone NOM every bridge crossed  
 ‘Someone crossed every bridge.’ some > every, every > some

This is further evidence that A-movement has moved the surface subject of ‘cross’ from within the VP to Spec,TP, which makes it possible to strand a FNQ within the VP as we saw earlier.

### 3 The predicate-internal subject position and apparent counterexamples to locality

Much of syntax is a study based on locality. The reason is that characterizing a problem in terms of locality substantially decreases the complexity of the problem by reducing the possible grammars that can be deduced, in turn leading to deep insights. The study of FNQ is no exception: it is based on the assumption that a FNQ and its associated NP must observe strict locality. If they are not local to each other in surface form, it means that the FNQ has been stranded by the associated NP that has left a copy of itself in the position local to the NQ. By viewing the associated NP – FNQ relation in this way, we can detect the underlying form, in turn giving evidence for NP traces and, as we will see later, the predicate-internal subject position.

The stranding analysis has been challenged by a number of studies in a variety of languages. Taking up the stranding data presented by Sportiche (1988), Shlonsky (1991), and others, Bobaljik (1995, 2003) raises syntactic and semantic problems, although for Japanese, he concludes that the distribution of FNQs does appear to reflect stranding (Bobaljik 2003: 132–134; see also Bošković 2004). Nevertheless, within the Japanese linguistics literature, the locality requirement has been taken to task by a number of linguists (e.g. Gunji and Hasida 1998; Fukushima 2003; Nishigauchi and Ishii 2003; Hoji and Ishii 2004; Kuno and Takami 2003).

Analyses that do not adopt stranding typically regard FNQs as adverbs (see Bobaljik 2003 for references for the adverb approach). This is a particularly attractive approach for a language such as English in that, as Sag (1978) first observed, the floating quantifier *all* has the same distribution as a normal adverb. Dowty and Brodie (1984) propose a semantic analysis of floating quantifiers as VP adverbs, based on, among others, the Chinese universal quantifier *dou*. Adverb analyses do not impose the kind of strict locality on the associate NP – FNQ relation that the stranding analysis does. One version of the adverb analysis would impose whatever locality the grammar requires of an adverb to combine with a VP, and for this predicate to predicate of the associated NP. Another version is that a floating quantifier is an anaphoric adverb, in which the associated NP and the floating quantifier are in the same relation as an antecedent and its anaphor (Kayne 1981; Belletti 1982; see Doetjes 1997 for a similar proposal). For Nakanishi (2004), who adopts an adverb analysis of FNQs, a FNQ quantifies over events (see also Fujita 1994); the relation between the FNQ and the associated NP is established by a certain semantic mechanism, and this mechanism imposes a kind of locality, though not in any way as strict as that imposed by the stranding analysis. We will discuss Nakanishi's data later.

### 3.1 Predicate-internal subject position and adverbs

Based on observations such as the following, Sportiche (1988) concludes that the subject starts out inside the verb phrase, shown as the underlined position in (19b).

- (19) a. *Tous les enfants ont vu ce film.*  
           all the children have seen this movie
- b. *Les enfants ont tous — vu ce film.*  
           the children have all seen this movie (Sportiche 1988: 426)

Assuming that the quantifier *tous* is in a strict local relation with its associated NP *les enfants*, Sportiche hypothesizes that in (19b), there is a trace of the NP next to the quantifier, and this trace fulfills the locality requirement. The trace cannot be anywhere; for example, it does not occur after the verb (*\*Les enfants ont vu tous ce film*), which is expected. The position of the trace in (19b) is precisely where the subject is initially merged inside the verb phrase. This idea of the so-called “predicate-internal subject position” is one of the major developments that distinguishes the recent Minimalist Program from the earlier Government and Binding framework. Kuroda (1988), in developing his important “whether we agree or not” work, independently proposed the idea of the predicate-internal subject position from a conceptual standpoint.

With the predicate-internal subject position (PISP) in mind, we can look at some FNQ data in the literature with the hope of providing a more precise analysis. It has been noted that a FNQ<sub>SBJ</sub> can get stranded from its associated subject NP, being separated by certain adverbs (Miyagawa 1989 and references therein).

- (20) *Gakusei ga kyoo san-nin sinbun o yonda.*  
 student NOM today 3-CLF newspaper ACC read  
 ‘Three students read a newspaper today.’

Nakanishi (2004) considers this occurrence of FNQ as an adverb that modifies the VP. An alternative is to adopt a Sportiche-style analysis and assume that the position occupied by the FNQ is the predicate-internal subject position, and the associated subject NP ‘student’ has moved from there to Spec,TP (Kawashima and Kitahara 1994). The copy of the associated NP that resides adjacent to the FNQ fulfills the mutual c-command requirement.

Evidence for the stranding analysis comes from other types of adverbs such as *umaku* ‘well/skillfully’ (Miyagawa and Arikawa 2007; see Ko 2007). As Ko notes, this adverb is a low VP adverb, which Miyagawa and Arikawa assume is lower than the predicate-internal subject position. On the stranding analysis, we predict that a subject-oriented FNQ that follows *umaku* would fail to be construed with the associated subject NP because it is too low to meet the locality requirement with the copy of the associated NP in Spec,vP. This is shown below in (21a); (21b) gives the structure of the ungrammatical example.

- (21) a. *\*Gakusei ga umaku san-nin eigo o hanasita.*  
 student NOM well 3-CLF English ACC spoke  
 ‘Three students spoke English well.’  
 b.  $*[_{TP} SUB_i [_{VP} t_i umaku [_{VP} FNQ_{SBJ} \dots]]]$

The adverb approach to FNQs would be hard put to explain the distinction between ‘today’ and ‘well’. Now, if it were the case that the stranding of the FNQ after *umaku* were always bad, some condition could be constructed to prevent this *umaku* – FNQ sequence even in the adverb approach. However, there are cases in which *umaku* is fine before a FNQ; these are cases where the copy of the associated NP resides within the VP. This shows that it is not sufficient simply to rule out all instances of *umaku* – FNQ sequence.

- (22) *Doa ga umaku huta-tu aita.*  
 door NOM deftly 2-CLF opened  
 ‘Two doors opened deftly.’ (Miyagawa and Arikawa 2007)

The verb in this example is unaccusative ('open<sub>unacc</sub>'), so that the copy of the associated subject NP resides in the VP that is modified by *umaku*.

- (23) *Doa ga<sub>i</sub> umaku* [<sub>VP</sub> *t<sub>i</sub> huta-tu aita*]  
 door NOM deftly 2-CLF opened

We can see the same with the direct passive.

- (24) *Kuruma ga doroboo ni umaku ni-dai nusum-are-ta.*  
 car NOM thief by deftly 2-CLFF steal-PASS-PST  
 'Two cars were stolen deftly by a thief.'

Here, again, the copy of the A-moved associated NP, 'car', is in the VP, which makes it possible for the FNQ inside the VP to fulfill the locality requirement with the copy of the associated NP.

The adverb approach faces difficulty in accounting for the range of data just observed. Minimally, it will need to add mechanism to the analysis, thus potentially introducing complexity into the account. We will return to Nakanishi's (2004) study, which presents an interesting argument for the analysis of FNQs in Japanese as adverbs. We will see that there is an alternative locality approach that has a number of advantages.

### 3.2 Predicate-internal subject position and the standard paradigm

Recall the standard paradigm given earlier (Miyagawa and Arikawa 2007).

- (25) Standard paradigm
- a. *Gakusei ga san-nin sake o nonda.*  
 student NOM 3-CLF<sub>SBJ</sub> sake ACC drank  
 'Three students drank sake.'
  - b. \**Gakusei ga sake o san-nin nonda.*  
 student NOM sake ACC 3-CLF<sub>SBJ</sub> drank  
 'Three students drank sake.' (Haig 1980; Kuroda 1980)
  - c. *Hon o gakusei ga go-satu katta.*  
 book ACC student NOM 5-CLF<sub>OBJ</sub> bought  
 'Students bought five books.' (Haig 1980; Kuroda 1980)

With PISP in place, the question arises as to why (25b) is ungrammatical, given that objects scramble to a sentence-medial position easily.

- (26) *Taroo wa pizza o<sub>i</sub> isoide t<sub>i</sub> tabeta.*  
 Taro TOP pizza ACC quickly ate  
 ‘Taro ate the pizza quickly.’

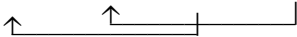
As Bobaljik (2003: 11) noted, why can’t there be this clause-internal scrambling of the object, then the scrambling of the subject across it, which would allow the copy of the subject NP to fulfill locality with the stranded FNQ in Spec,vP?

- (27) [<sub>TP</sub> SBJ<sub>i</sub> ... OBJ<sub>j</sub> [<sub>VP</sub> t<sub>i</sub> FNQ<sub>SBJ</sub> [<sub>VP</sub> t<sub>j</sub> ...]] ...]

Before the PISP was introduced into linguistic theory, structures such as (27) were excluded by the proposal that Saito (1985) made: subjects do not scramble. This is a reasonable constraint based on economy considerations: scrambling of the subject is an instance of string-vacuous movement, which would be uneconomical. The same goes with double scrambling – first the object, then the subject – which would also constitute a string-vacuous derivation. But that is only true in the pre-PISP era, when the subject was externally merged directly to VP.

- (28) [<sub>S</sub> SBJ VP]

Moving the object to adjoin to S, then moving the subject above the object, would indeed constitute a vacuous derivation.

- (29) [<sub>S</sub> SBJ [<sub>S</sub> OBJ [<sub>S</sub> t<sub>i</sub> [<sub>VP</sub> ... t<sub>i</sub> ...]]]]  


However, with the advent of the PISP, this kind of double movement need not be considered as purely vacuous optional movement. With both the subject and the object originating in the verbal phrase, one of them could move to Spec,TP, which would constitute movement to fulfill the EPP requirement; see Miyagawa (2001, 2010) for evidence that either the subject or the object may fulfill the EPP requirement of T in Japanese. On that view, there is only one instance of scrambling, whichever that moves into a position other than Spec,TP. So long as this movement is motivated, it would not be a string-vacuous movement (see Miyagawa 2011 for conditions on optional movement).

In the remainder of this chapter, we will look at examples where structures such as (27) are apparently possible under certain conditions. I will refer to this structure as the “Double-Movement Structure” (DMS). The examples I cite are those given in the literature to challenge the mutual c-command requirement on FNQ construal. As we will see, the DMS can account for most of the counterexamples while maintaining the mutual c-command requirement. We will also see that it is only under a



specific condition that the DMS becomes possible for licensing the FNQ. Looking closely at these apparent counterexamples informs us of the role of PISP in Japanese, which has the consequence of providing evidence for this theoretically important position.

### 3.3 Counterexamples to locality

A number of linguists have noted apparent exceptions to the standard paradigm, particularly the locality between the subject and its FNQ (Gunji and Hasida 1998; Fukushima 2003; Nishigauchi and Ishii 2003; Hoji and Ishii 2004; Kuno and Takami 2003). Following are typical examples.

- (30) ?*Gakusei ga sake o imamadeni san-nin nonda.*  
 student NOM sake ACC so far 3-CLF<sub>SBJ</sub> drank  
 ‘Three students drank sake so far.’ (Gunji and Hasida 1998: 57)
- (31) *Gakusei ga watasi no hon o huta-ri-sika kaw-anakat-ta.*  
 student NOM my GEN book ACC 2-CLF<sub>SBJ</sub>-only buy-not-PST  
 ‘Only two students bought my book.’ (cf. Takami 1998, pt. 1: 92)

These examples differ from the ungrammatical example in the standard paradigm in having something intervene between the object and the subject-oriented FNQ ((30)) or, in (31), the addition of the negative polarity item *-sika* ‘only’ on the FNQ. In the standard paradigm example, nothing comes between the object and the subject-oriented FNQ nor does anything like *-sika* occur on the FNQ.

Miyagawa and Arikawa (2007) point out that the intervening item or *-sika* in the counterexamples leads to a different prosody from the ungrammatical example in the standard paradigm. In the example in the standard paradigm, the default prosody is one in which the object and the FNQ are within the same prosodic domain that receives the default prosodic prominence.

- (32) \**Gakusei ga [sake o san-nin] nonda.*  
 student NOM sake ACC 3-CLF<sub>SBJ</sub> drank  
 ‘Three students drank sake.’

This leads to the object and the subject-oriented FNQ being construed together, which results in a clash in the agreement between the classifier for people and the object ‘sake’. In the counterexamples, it is the FNQ itself that receives the default prosodic prominence, either because it is separated from the object as in (30) or because of the occurrence of *-sika* on the FNQ in (31), a focus element that attracts

the sentential prosodic prominence. In either case, the prosodic prominence on the FNQ keeps it from being construed in the same domain as the object.

If it were simply the case that keeping the object from being in the same prosodic domain as the subject-oriented FNQ is what it takes to overcome the ungrammaticality in the crucial example in the standard paradigm, it would be difficult to separate the adverb approach from the locality-based analysis. It may in fact favor the adverb approach. However, Miyagawa and Arikawa (2007) note an additional point: in these counterexamples, the object has moved from inside the verb phrase to a position high in the structure. They argue, following the EPP analysis of Miyagawa (2001), that the object has moved to Spec,TP. If this is true, it is completely unexpected under the adverb approach to the FNQ.

Miyagawa and Arikawa (2007) adopt the proposal in Miyagawa (2001) that when the subject does not move into the Spec,TP, the object may move there to fulfill the EPP requirement of T. The subject then moves across the object to form a Double-Movement Structure (DMS) configuration.

- (33) [TP SBJ [TP OBJ [<sub>VP</sub> t<sub>OBJ</sub> [<sub>VP</sub> [ t<sub>SBJ</sub> NQ<sub>SBJ</sub>] [<sub>VP</sub> ... t<sub>OBJ</sub> ... ]]]]
- 

In this structure, the object first moves to adjoin to *vP*, then moves to Spec,TP. The subject moves over the object to adjoin to TP. See Miyagawa and Arikawa (2007) and Miyagawa (2001) for discussion. Below, I present two of the arguments Miyagawa and Arikawa give for the DMS in (33).<sup>3</sup>

The first argument that the object in the counterexamples moves to Spec,TP is based on the scope of a universal quantifier relative to negation. A universal expression such as *zen'in* 'all' in the subject position scopes over negation, but it may be within the scope of negation in the object position (see Miyagawa 2001).<sup>4</sup>

- (34) a. *Zen'in ga syukudai o das-anakat-ta.*  
 all NOM homework ACC turn.in-NEG-PST  
 'Everyone did not turn in the homework.' all > not, \*not > all
- b. *linkai ga zen'in o erab-anakat-ta.*  
 committee NOM all ACC choose-NEG-PST  
 'The committee didn't choose everyone.' all > not, not > all

The universal-quantifier subject in (34a) has moved to Spec,TP, above negation, and this position can only take wide scope relative to negation. In (34b), the universal-quantifier object may be interpreted inside the scope of negation, showing that it

<sup>3</sup> See Koizumi and Tamaoka (2010) for experimental evidence for the DMS in (33).

<sup>4</sup> The judgment for the (a) example is based on the default pronunciation in which the object receives the prosodic prominence.

stays in VP. I will return to the other interpretation below. Now note that if the object intervenes between the subject NP and the subject-oriented FNQ as we saw in the counterexamples, there is evidence that the object moves high in the structure, above negation. This is shown in the (35b) example below.

- (35) a. *Gakusei ga huta-ri zen'in o mi-nakat-ta.*  
 student NOM 2-CLF all ACC see-NEG-PST  
 'Two students didn't see everyone.' all > not, not > all
- b. *Gakusei ga zen'in o huta-ri-tomo mi-nakat-ta.*  
 student NOM all ACC 2-CLF-both see-NEG-PST  
 'Both of the two students didn't see everyone.' all > not, \*not > all

In (35a), the subject FNQ occurs adjacent to the subject, and the object may take scope within the negation. But in (35b), the object *zen'in* intervenes between the subject and the subject FNQ; the subject FNQ has *-tomo* 'both' that attracts the prosodic prominence. Here, the object cannot be in the scope of negation, indicating that the object has moved high in the structure. In this DMS, in which the object moves, and then the subject moves across the moved object, there is a copy of the subject following the object, which makes it possible to strand the subject-oriented FNQ after the object. Going back to the (35a) example in which the object within the VP may have the 'all > not' as well as the other interpretation, we can speculate that this interpretation is possible due to movement of the object string vacuously to Spec,TP.

The second argument is based on indeterminate pronouns. An indeterminate pronoun is a *wh*-phrase that is interpreted as indefinite *any* in the scope of the universal particle *mo*. To make this interpretation possible, the indeterminate pronoun must be *m*-commanded by the universal *-mo*; this *-mo*, which occurs on the verb stem, raises with the stem to *v* but not to T (Kishimoto 2001).

- (36) a. *Taroo ga nani o kai-mo-si-na-katta.*  
 Taro NOM what ACC buy-MO-do-NEG-PST  
 'Taro did not buy anything.'
- b. *\*Dare ga warai-mo-si-na-katta.*  
 who NOM laugh-MO-do-NEG-PST  
 'No one laughed.'
- c. *\*Dare ga Hanako o home-mo-si-na-katta.*  
 who NOM Hanako ACC praise-MO-do-NEG-PST  
 'No one praised Hanako.'
- (Kishimoto 2001: 600)

While the object position can host an indeterminate pronoun ((36a)), the subject position cannot ((36b/c)). The subject position is outside the domain of the *mo* particle, which Kishimoto assumes is at *v*. Now note the following.

- (37) a. *Kodomo ga san-nin dono-eiga o mi-mo-si-na-katta.*  
 kids NOM 3-CLF which-movie ACC see-MO-do-NEG-PST  
 ‘Three kids did not see any movie.’

- b. \**Kodomo ga dono-eiga o imamadeni san-nin*  
 kids NOM which-movie ACC so far 3-CLF  
*mi-mo-si-na-katta.*  
 see-MO-do-NEG-PST  
 ‘Three children did not see any movie so far.’

(Miyagawa and Arikawa 2007)

In (37b), in which the object occurs between the subject and the FNQ, the object indeterminate pronoun is ungrammatical, indicating that this object has moved to Spec,TP and outside the domain of *-mo*.

## 4 FNQ and telicity<sup>5</sup>

The DMS analysis accounts for the counterexamples noted in the literature to the locality-based analysis of FNQs. It is crucially based on the PISP. However, there still remains a problem. The DMS does not always lead to a natural example, as in the following (Miyagawa 2012).

- (38) ?\**Kodomo ga uta o zyuppunkan san-nin utatta.*  
 child NOM song ACC for 10 minutes 3-CLF sang  
 ‘Three children sang a song for ten minutes.’

The subject-oriented FNQ *san-nin* is separated from the object by the adverb ‘for ten minutes’ so that the FNQ receives the prosodic prominence, yet, the sentence is ungrammatical. There is nothing wrong with the meaning of the sentence; if the FNQ occurs next to the subject, the sentence is grammatical.

- (39) *Kodomo ga san-nin uta o zyuppunkan utatta.*  
 child NOM 3-CLF song ACC for 10 minutes sang  
 ‘Three children sang a song for ten minutes.’

As we will see, DMS alone is not sufficient to guarantee that the copy of the subject is available to strand the FNQ. There is an additional condition: the aspect of verbal

<sup>5</sup> Much of the text in sections 4 and 5 are taken from Miyagawa (2012). However, I have fundamentally changed the analysis of telicity that is crucial to the arguments in these two sections.

phrase must be telic (Miyagawa 2012). Below, we will explore this additional condition on the copy in the PISP in Japanese.

## 4.1 Intransitive verbs

A number of linguists have noticed that certain types of FNQ stranding that are otherwise impossible become possible in a particular aspectual context, namely, in the *telic* aspect, in which there is an endpoint to the event expressed.<sup>6</sup> The first to note this was Tsujimura (1990) in her study of unaccusative mismatches (Dowty 1991; Levin and Rappaport 1989; Levin and Rappaport Hovav 1995). She gives the following minimal pairs with the intransitive verbs ‘run’ and ‘swim’.

- (40) a. ?\**Gakusei ga kodomo to san-nin hasitta.*  
 student NOM children with 3-CLF ran  
 Intended: ‘Three students ran with the children.’  
 b. *Gakusei ga kooen made san-nin hasitta.*  
 student NOM park as far as 3-CLF ran  
 ‘Three students ran to the park.’
- (41) a. ?\**Gakusei ga kodomo to inukaki de san-nin oyoida.*  
 student NOM children with dog-paddling by 3-CLF swam  
 Intended: ‘Three students swam with children by dog-paddling.’  
 b. *Gakusei ga kisi made inukaki de san-nin oyoida.*  
 student NOM shore as far as dog-paddling by 3-CLF swam  
 ‘Three students swam to the shore by dog-paddling.’

As Tsujimura (1990, 269–270) notes, ‘run’ and ‘swim’ are typical unergative verbs, so that we would not expect them to allow stranding of the FNQ across PPs. The (a) examples demonstrate this, but, puzzlingly, the (b) examples allow stranding. According to Tsujimura, the addition of the goal phrase in the (b) examples “adds a specification of inherent direction as well as an *endpoint to the original meaning of the verb* and makes the verb function like [an unaccusative] verb.” Tsujimura, referring to Levin and Rappaport 1989 (see also Dowty 1991; Levin and Rappaport Hovav 1995), observes that with the goal phrase, these intransitive verbs behave like unaccusative verbs with inherent direction, such as ‘arrive’, ‘come’, ‘go’, ‘depart’, ‘fall’, ‘return’, and ‘descend’.

<sup>6</sup> See Levin and Rappaport Hovav (2005) for discussion of three types of telicity. In this chapter, I will not subdivide telicity into different types.

In the following example given by Kuno and Takami (2003: 284), intended as a counterexample to the locality analysis of FNQ, we can see the same point about telicity.

(42) A: 'Is this new magazine selling well?'

B: *Ee, kesa mo gakusei-san ga*  
 yes this morning also students NOM  
 [<sub>VP</sub> *sore o go-nin kat-te iki-masi-ta yo*].  
 it ACC 5-CLF buy-ing go-POL-PST  
 'Yes, this morning also, five students bought it.'

Note that in this example, the verb contains the motion verb 'go', which, being unaccusative, naturally leads to a telic interpretation.

The following minimal pair demonstrates in a direct fashion the importance of aspectual interpretation for stranding of NQs.

- (43) a. \**Tomodati ga zyuppunkan huta-ri odotta.*  
 friend NOM for ten minutes 2-CLF danced  
 Intended: 'Two friends danced for ten minutes.'
- b. *Tomodati ga zyup-pun-no-uti-ni huta-ri odotta.*  
 friend NOM in ten minutes 2-CLF danced  
 'Two friends danced (a dance) in ten minutes.'

This is a classic test of aspect found in Vendler (1967) that distinguishes between activities (*X-ing for ten minutes*) and accomplishments (*X-ing in ten minutes*), the former without an endpoint that bounds the event expressed, and the latter with such an endpoint. The judgment is crisp and clear: with an activity, which has atelic aspect, stranding of the FNQ is entirely ungrammatical, while the telic aspect of accomplishment makes FNQ stranding totally acceptable.<sup>7</sup> There is nothing wrong with the meaning of the sentence in (43a), as shown by the fact that if the FNQ is next to the subject, the example is perfectly fine.

<sup>7</sup> There are examples superficially very similar to the ungrammatical (42a) that for some people are not so bad, with a special interpretation.

(i) (\*)*Tomodati-ga itizikan huta-ri odotta.*  
 friend-NOM one hour two-CLF danced  
 ('Two friends danced per hour.')

For those who accept this sentence, the special interpretation is that every hour, two friends danced. This is a telic interpretation, and the grammatical nature of it is predicted. To get this interpretation,

- (44) *Tomodati ga huta-ri zyuppunkan odotta.*  
 friend NOM 2-CLF for ten minutes danced  
 ‘Two friends danced for ten minutes.’

Furthermore, it has been noted that stranding of a FNQ is ungrammatical with permanent/individual-level predicates (Harada 1976; Fukushima 1991; Nishigauchi and Uchibori 1991; Ohki 1987), an observation that coincides with the idea that stranding of FNQs is limited to telic expressions, since individual-level predicates are atelic (see, for example, Diesing 1992). The following is taken from Mihara (1998, pt. 3: 110–111; see also Nakanishi 2008).

- (45) a. *Uti-no doobutuen de wa kaba ga mada san-too genki da.*  
 my zoo at TOP hippo NOM still 3-CLF healthy COP  
 ‘In my zoo, three hippos are still healthy.’  
 b\**Uti-no doobutuen de wa kaba ga zannennakotoni san-too osu da.*  
 my zoo at TOP hippo NOM unfortunately 3-CLF male COP  
 ‘In my zoo, unfortunately, three hippos are male.’

All of the examples of unexpectedly grammatical FNQ stranding involve an external argument. The pattern that emerges is that stranding of a subject-oriented FNQ by the external argument is possible in telic expressions. How can we account for this? Whatever account we come up with will need to account for the unaccusative mismatch that Tsujimura observed: the addition of a goal phrase to an unergative construction creates the possibility of stranding a FNQ. Although one option is to follow Tsujimura in assuming that the argument structure changes with the addition of the goal phrase, there is a sense that the predicate and the participant in the event are basically the same with and without the goal phrase, and that the difference is in the aspectual interpretation of the event.

What I suggest is the following (Miyagawa 2012):

- (46) Telicity and the external argument (TEA)

Once the external argument moves to Spec,TP, its copy in the predicate-internal subject position is visible under a telic interpretation.

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‘one hour’ and the NQ must be pronounced as a prosodic unit. The following pseudocleft example shows that the two comprise a phrase (thanks to Hiroki Maezawa for pointing this out).

- (ii) *Tomodati-ga odotta-no-wa itizikan huta-ri da.*  
 friend-NOM danced-NL-TOP one hour two-CLF COP  
 ‘It’s two each hour that friends danced.’

This example only has the interpretation that friends danced two at a time each hour. In the ungrammatical (42a), combining ‘ten minutes’ with the NQ is more difficult for reasons that I do not understand.

It has been noted in the literature (e.g. Miyagawa 2001) that the lower copy of the external argument is not visible in Japanese. However, what TEA states is that the copy becomes visible under telic aspect. The reason is not clear, and it is beyond the scope of this chapter to try to come up with an account (see a brief speculation at the end of the chapter), particularly because the relationship between the external argument and argument structure is, with few exceptions, uncharted territory. There are a handful of works that make observations related to this relationship between the subject and telicity (see, for example, Folli and Harley 2005; Rappaport Hovav and Levin 2007; Rappaport Hovav 2008). Folli and Harley (2005) note a number of examples from English and Italian where there is a close link between the type of event in the verbal predicate and the type of external argument that is allowed, and often it is the aspect of the event that governs the type of the external argument that can occur.<sup>8</sup>

TEA accounts for all of the examples above in which a subject-oriented FNQ is successfully stranded; in the telic aspect, the lower copy of the subject meets the strict-locality requirement. We can in fact “repair” the ungrammatical example (47a) from the standard paradigm and see TEA at work.

- (47) a. \**Gakusei ga sake o san-nin nonda.*  
           student NOM sake ACC 3-CLF<sub>SBJ</sub> drank  
           ‘Three students drank sake.’ (Kuroda 1980)
- b. *Gakusei ga sake o sudeni san-nin nonda.*  
           student NOM sake ACC already 3-CLF<sub>SBJ</sub> drank  
           ‘Three students already drank sake.’

---

<sup>8</sup> It is possible that TEA could follow from independent considerations, if we consider the possibility that in the ungrammatical atelic examples, what intervenes between the subject NP and the subject NQ is an element that structurally belongs below Spec,vP, and thus the stranded subject NQ is not supported by the copy of the subject in vP. This would allow us to account for the ungrammatical (and grammatical) cases without stipulating something like TEA. One example in favor of this is that the following atelic example is fine.

- (i) *Gakusei-ga kinoo san-nin sake-o nonda.*  
       student-NOM yesterday three-CLF sake-ACC drank  
       ‘Three students drank sake yesterday.’

This is an atelic example, yet stranding is possible. The reason may be that the temporal adverb ‘yesterday’ is above Spec,vP, and the NQ *san-nin* is in Spec,vP along with the copy of the subject ‘students’. However, there are a number of examples, such as the pairs due to Tsujimura (1990) and the activity–accomplishment minimal pair in (42), that are not readily amenable to this kind of structural analysis. I will therefore assume TEA, but with the idea that it may be possible to derive it from basic structural considerations.



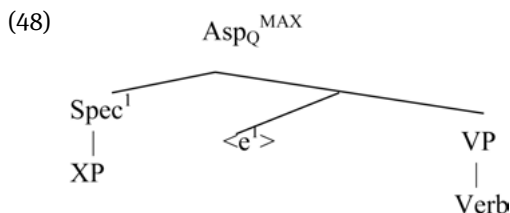
While most speakers I have consulted agree with the judgment that (47a) is degraded, example (47b), which, because of the addition of ‘already’, has a clear telic interpretation, is perfectly acceptable. This is true whether ‘already’ is placed before the verb or even the subject.

The account according to TEA is particularly important for the notion of the PISP. Sportiche’s (1988) examples from English and French of stranded quantifiers provided one of the strongest pieces of evidence for this notion. However, Bošković (2004) and Tada (1999), among others, argue that the position of the floating quantifier in English (and French, in Bošković’s case) is not the original position of the subject, but is instead a derived, non- $\theta$ -marked position. If this is the case, we no longer have quantifier stranding in English and French as empirical evidence for one of the most important notions that distinguish minimalism from Government and Binding. Instead, if our analysis of subject-oriented FNQ stranding in terms of TEA is correct, Japanese provides independent evidence for the predicate-internal subject position.

In presenting support for FNQ stranding based on TEA, I take into account observations made in the literature to the effect that a FNQ not only modifies the associated NP, it also interacts with the event structure of the verbal predicate. Fujita (1994) argues that a NQ in the NP–FNQ sequence (or likewise a stranded FNQ) modifies its host NP through modification of the verbal predicate. Likewise, Nakanishi (2004, 2007a, 2007b) presents a semantic approach in which the FNQ quantifies over events denoted by the verbal predicate as well as over individuals denoted by the host NP. What I will present is a stranding approach that makes explicit how the FNQ can quantify over individuals denoted by the NP – which accounts for the agreement between the type of associated NP being counted and the classifier on the FNQ – and at the same time can directly participate in the quantificational structure of telic events denoted by the verbal predicate.

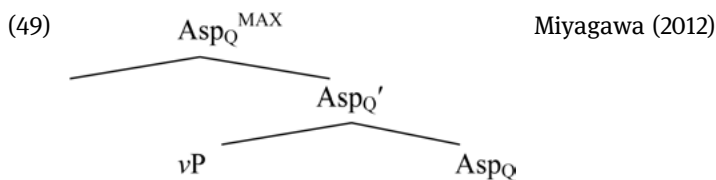
## 4.2 Grammaticalizing telicity

The analysis I will present for FNQs in the NP(case)–FNQ sequence and stranded FNQs is based on an extension of Borer (2005). Borer argues that the telic aspect is structurally represented by an aspectual head, which she calls  $Asp_Q$ , where  $Q$  stands for *quantity*. This represents the notion that “telic events are quantities, in the sense that they involve quantification over event divisions” (Borer 2005: 74; see also Link 1983, 1987; Bach 1989; Krifka 1989, 1992; see also Tenny 1987, 1994; among others). In contrast, “atelic events are homogeneous” and do not involve a quantitative aspectual head. In Borer’s system, if  $Asp_Q$  occurs, an XP that provides the quantity is merged into the specifier of this head, and this XP then binds an operator position within an extended verbal projection.



In (48),  $\langle e \rangle$  is an open value that requires range assignment, and if bound by an XP with the property of quantity, it is given an appropriate range over event divisions. In an atelic event, there is no such structure. This XP may be the object of a transitive verb or the lone argument of an unaccusative verb. (Borer sometimes assumes a nonce projection for atelic events and at other times there is no such projection; I will make the latter assumption.)

In Miyagawa (2012), I argued that, contrary to Borer's proposal, the  $\text{Asp}_Q$  is merged above  $\text{vP}$ .



However, there are reasons to believe that we would end up with a better analysis if we simply accept Borer's original idea that the  $\text{Asp}_Q$  is merged on the VP as shown in (48). I will therefore depart from the analysis in Miyagawa (2012) and assume (48). (48) is equivalent to what Fukuda (2012) calls a Low Aspect.

Let us again look at the minimal pair presented earlier.

- (50) a. \**Tomodati ga zyuppunkan huta-ri odotta.*  
 friend NOM for ten minutes 2-CLF danced  
 Intended: 'Two friends danced for ten minutes.'
- b. *Tomodati ga zyuppun-no-uti-ni huta-ri odotta.*  
 friend NOM in ten minutes 2-CLF danced  
 'Two friends danced (a dance) in ten minutes.'

To begin with the grammatical (50b) example, this sentence has a telic interpretation because of the adverb 'in ten minutes'. The relevant portion of the structure for this sentence is given below.

- (51) [<sub>TP</sub> *tomotati ga zyuppun-no-uti-ni* [<sub>vP</sub> *t<sub>i</sub> huta-ri* [<sub>AspQP</sub> [<sub>VP</sub> *odotta...*]]]]  
 friend NOM in ten minutes 2-CLF danced

From this structure, which is grammatical, we can see that TEA is implemented by the copy of the external argument c-commanding  $\text{Asp}_Q$ .

In the ungrammatical example, (50a), the aspect is that of an activity, which is atelic, so the lower copy is not visible under TEA and hence the stranded FNQ violates locality. If the subject NP and the FNQ are moved together to Spec,TP, the FNQ is local to its associated NP and the sentence is grammatical as expected.

- (52) *Tomodati ga huta-ri zyuppunkan odotta.*  
 friend NOM 2-CLF for ten minutes danced  
 ‘Two friends danced for ten minutes.’

### 4.3 Subjects and objects

In Miyagawa and Arikawa (2007), we responded to a number of counterexamples to the standard paradigm, including examples discussed earlier in this chapter in which the subject and its FNQ are separated by the object; the examples are repeated below.

- (53) *?Gakusei ga sake o imamadeni san-nin nonda.*  
 student NOM sake ACC so far 3-CLF<sub>SBJ</sub> drank  
 ‘Three students drank sake so far.’ (Gunji and Hasida 1998: 57)

- (54) *Gakusei ga watasi no hon o huta-ri-sika kaw-anakat-ta.*  
 student NOM my GEN book ACC 2-CLF<sub>SBJ</sub>-only buy-not-PST  
 ‘Only two students bought my book.’ (cf. Takami 1998, pt. 1: 92)

As noted earlier, in these examples, the subject FNQ is prosodically separated from the object, so that the FNQ cannot mistakenly be construed with the object. These are cases of the DMS in which the object first moves above the subject, then the subject moves above the object, stranding its FNQ. We adopted the EPP analysis in Miyagawa (2001) in which the object moves to Spec,TP. I have added the  $\text{Asp}_{QP}$  to the structure.

- (55)  $[_{TP} \text{ SBJ } [_{TP} \text{ OBJ } [_{VP} \text{ t}_{OBJ} [_{VP} [ \text{t}_{SBJ} \text{ NQ}_{SBJ} ] [_{\text{AspQP}} [_{VP} \dots \text{t}_{OBJ} \dots ]]]]]]$
- 

This DMS in which the subject FNQ is stranded is possible under a telic interpretation due to TEA. This is again shown with the minimal pair below.

- (56) a. *\*Gakusei ga sake o yonzyuugo-hun-kan san-nin nonda.*  
 student NOM sake ACC for forty-five minutes 3-CLF<sub>SBJ</sub> drank  
 Intended: ‘Three students drank sake for forty-five minutes.’

- b. *Gakusei ga sake o yonzyuugo-hun-no-uti-ni san-nin nonda.*  
 student NOM sake ACC in forty-five minutes 3-CLF<sub>SBJ</sub> drank  
 ‘Three students drank sake in forty-five minutes.’

#### 4.4 Stranded NQ and modification of events

Fujita (1994) and Nakanishi (2004) observe that a FNQ not only modifies the associated NP, but also the event represented by the verbal predicate. Nakanishi (2004: 67) gives the following to demonstrate this.<sup>9</sup>

- (57) *\*?/??Gakusei ga kinoo san-nin Peter o korosi-ta.*  
 student NOM yesterday 3-CLF Peter ACC kill-PST  
 Intended: ‘Three students killed Peter yesterday.’

Nakanishi notes that the event of killing Peter is something that can only occur once. The unacceptance of (57) is explained if the FNQ, as an adverb, ranges over multiple events of killing Peter that distribute over each of the three students; this goes against the idea that there can only be one event of killing Peter. Nakanishi uses this interesting data to argue against the stranding analysis of floating FNQs (see also Nakanishi 2008), instead arguing that the interpretative facts suggest that the FNQ is an adverb.

This debate is typical of the kind of discussion that has occurred in the general analysis of floating quantifiers. Some assert that all floating quantifiers are of the stranded kind (e.g. Cirillo 2009; Shlonsky 1991; Sportiche 1988) while others propose that floating quantifiers are either always adverbs or maybe alternating between stranded quantifiers and adverbs depending on the context (see for example, Bobaljik 2003; Doetjes 1997; Fitzpatrick 2006; Fukushima 1991; Ishii 1998; Nakanishi 2004; Sag 1978). For Japanese, Nakanishi’s example has been one of the most compelling pieces of empirical evidence given for the adverb analysis of FNQs (her analysis can be traced back to the work by Ishii 1998, whose work in turn owes insights to Kitagawa and Kuroda 1992).

But is there a reason to believe that (57) argues against a stranding analysis? I believe the distributive reading noted by Nakanishi can be generated by the analysis of the telic aspect sketched above without recourse to the adverb analysis of the FNQ. Given that the verb ‘kill’ clearly defines a telic event, the structure for (57) must contain Asp<sub>Q</sub>P. The stranded FNQ ‘three’ c-commands the Asp<sub>Q</sub>P, thereby

<sup>9</sup> Nakanishi (2008) pairs (57) with the following example:

(i) *Gakusei-ga kinoo san-nin Peter-o tatai-ta.*  
 student-NOM yesterday three-CLF Peter-ACC hit-PST  
 ‘Three students hit Peter yesterday.’

Unlike with ‘kill’ in (57), the act of hitting Peter can take place multiple times, hence the sentence is felicitous.

modifying the event subdivision of  $\text{Asp}_Q$  and giving the interpretation that there are three instances of the (subdivided) event.

The following example argues against a Nakanishi-type adverb approach to FNQs, and at the same time, is consistent with the analysis I have presented.

- (58) *Gakusei ga sakihodo san-nin (issyoni) teeburu o motiageta.*  
 student NOM a while ago 3-CLF together table ACC picked up  
 ‘A while ago, three students (together) picked up a table.’

This sentence is ambiguous between a collective and a distributive meaning: the students either together picked up a table once (for which ‘together’ is compatible) or they each individually picked up a table. The adverb analysis would only be consistent with the distributive meaning. But on the analysis we have presented, the FNQ itself does not trigger event division; if the event itself can be collective because of the nature of the predicate, as in (58) above, the FNQ does not force a distributed meaning. This is why a collective interpretation remains possible even with a stranded FNQ; the distributed meaning is not a function of the FNQ but simply an option that comes with the meaning of the predicate.

Nakanishi (2008: 308) is aware of this type of example; she claims that it is prosodically ambiguous between floated and nonfloated versions. But in (58), there is an adverb “a while ago” between the associated NP and the FNQ, which precludes the nonfloated structure.

## 5 Quantifier scope and TEA

As the final point in this chapter, I will take up quantifier scope to give independent evidence for TEA. As already noted, since Kuroda (1970), it has been widely assumed that Japanese is a scopally rigid language (see also Hoji 1985).

- (59) *Dareka ga dono-sensei-mo kiratteiru.*  
 someone NOM everyteacher hates  
 ‘Someone hates every teacher.’

Unlike its English counterpart, in the Japanese example in (59), the surface-scope reading involving a particular person who loves everyone is strongly preferred; for most speakers, the inverse scope is impossible. This has become one of the defining characteristics of Japanese.

However, a closer look at the data shows that this characterization as a general property of the language is incorrect. There are examples in which native speakers have an easier time getting an inverse-scope interpretation. Following are two such examples.<sup>10</sup>

<sup>10</sup> Most speakers I consulted about these examples were able to get the inverse scope. A few speakers note that as soon as they hear *dareka* ‘someone’ in the subject position, they immediately imagine a specific person; for these speakers, inverse scope is not available.

- (60) a. (*Gozi-kan-no-uti-ni*) *dareka ga dono-mado-mo aketa.*  
           in five hours           someone NOM every window opened  
           ‘Someone opened every window (in five hours).’
- b. (*Nizi-kan-no-uti-ni*) *dareka ga dono-omotya-mo kowasita.*  
           two hours           someone NOM every toy           broke  
           ‘Someone broke every toy (in two hours).’

As we can see, these are clearly telic examples, suggesting that telicity has a role not just in licensing certain kinds of NQ stranding, but also scope inversion. A reasonable assumption based on TEA is that these are cases of DMS, in which the object has moved to Spec,TP, and the subject across this object.

The following, pointed out to me by Toshiaki Inada and Hiroaki Tada, also demonstrates that telicity is relevant to scope relations.

- (61) *Dareka ga dono-hon-mo yonde-iru.*  
       someone NOM every book read-ing  
       ‘Somone has read/is reading every book.’

The verbal inflection *-iru* can indicate progressive or resultative, the former representing activity and the latter accomplishment. In the progressive interpretation, this sentence is unambiguous, with only the surface scope being possible, but with the resultative interpretation, the inverse scope becomes possible, although surface scope is still preferred.

Why is it that inverse scope appears under the telic aspect? Let us begin by looking into how inverse scope is made possible in English. Johnson and Tomioka (1997) and Johnson (2000) argue that inverse scope in a sentence such as the following is possible thanks to the fact that the object quantifier *many of the questions on the exam* takes scope over the copy of the subject in Spec,vP.

- (62) Some student or other has answered many of the questions on the exam.

- (63)  $[_{TP} \text{ Subject}_i [_{vP} \text{ Object}_j [_{vP} t_i [_{VP} V t_j] \dots]$

In Johnson and Tomioka (1997), the reason why the object moves to vP is to correct type mismatch; in Johnson 2000 the movement of the object is covert scrambling. On either account, the analysis does not depend on the object undergoing Quantifier Raising to adjoin to TP, which is the classic analysis of inverse scope (May 1977). Johnson gives the following evidence to show that it is the copy of the subject in Spec,vP that is operative in inverse scope. First, we are reminded that the indefinite *some* cannot scope under negation.

- (64) I have not met some student.   some student > not

Johnson then notes the following, which is the negative counterpart of the ambiguous sentence we saw in (62) above.

(65) Some student or other hasn't answered many of the questions on the exam.

This example fails to have inverse scope in which *many questions on the exam* takes scope over the subject *some student or other*. We can understand this lack of inverse scope if negation keeps the subject indefinite *some student or other* from being interpreted in its original Spec,vP position. Without this copy available for interpretation, inverse scope becomes impossible, on the assumption that it is this copy that enters into the calculation of inverse scope.

Returning to Japanese, the surprising availability of inverse scope in telic sentences finds an explanation in our approach to stranding of FNQs based on telicity, in a way that parallels the analysis of inverse scope in English just outlined. Because of TEA, a telic aspect allows a double-movement construction (DMC) with the copy of the external argument visible.

(66) [<sub>TP</sub> SBJ [<sub>TP</sub> OBJ [<sub>vP</sub> t<sub>OBJ</sub>] [<sub>vP</sub> [t<sub>SBJ</sub> NQ<sub>SBJ</sub>] [<sub>AspQP</sub> [<sub>VP</sub> ... t<sub>OBJ</sub> ...]]]]]

In this structure, the object c-commands the visible copy of the external argument, thereby making the inverse scope interpretation available. In an atelic structure, even if it is a DMC, the inverse scope is not possible because the lower copy is invisible.

## 6 Conclusion

The numerous counterexamples to the locality-based analysis of FNQs turn out to provide further insights into the locality-based analysis. The typical counterexamples may be analyzed as instances of a double-movement construction, with the object moving to Spec,TP and the subject above the object. The subject FNQ in the original Spec,vP position is local to the copy of the external argument, thereby fulfilling the locality requirement. An additional condition in Japanese is that the copy of the external argument is visible only under telic aspect. While we need to understand where this condition comes from, we found independent evidence for it from quantifier scope. On the analysis given, it is not the case that Japanese as a whole is scopally rigid. Rather, Japanese has TEA, which only allows inverse scope in telic aspect. Ultimately, we will have to derive TEA from other, independent considerations. One possibility is to explore Nakanishi's insight that FNQs distribute events.

Although I showed that this need not be the case, some combination of her observation and the idea of telicity as subdividing the event may lead to a promising analysis.

## Acknowledgments

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## 16 Relative clauses

### 1 Introduction

The syntax of relative clauses has been one of the most widely discussed issues in the literature (Chomsky 1977; Kayne 1994; Schachter 1973; to name a few), elucidating a variety of properties common and divergent across languages. In this respect, Japanese relative clauses are no exception. It is well attested that Japanese relative clauses exhibit characteristics different from those of other languages (Inoue 1976; Okutsu 1974; Shibatani 1978; Teramura 1977; to name a few). The syntactic properties of Japanese relative clauses are thus likely to provide us with a clue to reveal significant properties of this language, which, in turn, can lead to the clarification of the properties of Universal Grammar.

One superficial, yet very significant property of Japanese relative clauses is that they contain neither an overt relative pronoun nor an overt complementizer, yet no deviance results, as shown in (1a) (Kuno 1973; Fukui and Takano 2000; Matsumoto 1997; among others). In the English counterpart of (1a), on the other hand, neither the relative pronoun *who* nor the complementizer *that* can be omitted, as shown in (1b, c).

- (1) a. *Taroo ga Hanako ni hanasikaketa sensei o sitteiru.*  
Taro NOM Hanako DAT talked.to teacher ACC know  
'Taro knows the teacher who talked to Hanako.'
- b. Taro knows the teacher \*(who) talked to Hanako.
- c. Taro knows the teacher \*(that) talked to Hanako.

Nevertheless, it is not the case that complementizers are totally absent in this language. Consider (2a, b).

- (2) a. *Hanako ga Taroo ga oyoida to itta.*  
Hanako NOM Taro NOM swam that said  
'Hanako said that Taro swam.'
- b. *Hanako ga hometa no wa Taroo o da.*  
Hanako NOM praised that TOP Taro ACC is  
'It is Taro that Hanako praised.'

(2a) involves an embedded clause headed by the complementizer *to*, whereas (2b) is an instance of the cleft construction in which the presuppositional clause is headed



in Japanese. Having established that movement is involved in short-distance relativization, we provide an argument for the operator-movement approach to Japanese relativization in Section 6. Finally, Section 7 is our concluding remarks.

## 2 Setting the Stage

Kuno (1973) made two more important observations, in addition to the observation that Japanese relative clauses are not accompanied by a relative pronoun or a complementizer.

First, he points out that Japanese relative clauses do not always require a gap. For example, there is no obvious position for a gap in (6a, b).

- (6) a. *syuusyoku ga taihen na buturigaku*  
 employment NOM difficult is physics  
 ‘physics, where finding a job is difficult’ (Kuno 1973: 255)
- b. *doa ga simaru oto*  
 door NOM shut sound  
 ‘(lit.) the sound that the door shut’ (Murasugi 1991: 155)

Second, even when the relative gap is present, it can be within an island. Consider (7a–c).

- (7) a. [*Hanako ga [Taroo ga e<sub>1</sub> mikaketa to] itta*] *sensei<sub>i</sub>*  
 Hanako NOM Taro NOM saw that said teacher  
 ‘the teacher that Hanako said that Taro saw’ (Kuno 1973: 67)
- b. [[[*e<sub>1</sub> e<sub>2</sub> kiteiru*] *yooohuku<sub>2</sub>*] *ga yogoreteiru*] *sinsi<sub>i</sub>*  
 wearing.is suit NOM dirty.is gentleman  
 ‘the gentleman such that the suit that (he) is wearing is dirty’
- c. [[*e<sub>1</sub> sinda noni*] *daremo kanasimanakatta*] *hito<sub>i</sub>*  
 died although anyone saddened.not.was person  
 ‘the person who no one was saddened although he/she died’ (Kuno 1973: 249)

The grammaticality of (7a) shows that long-distance dependency is possible in argument relativization whereas the grammaticality of (7b, c), which are instances of a complex NP island and an adjunct island, indicates that Japanese argument relativization is immune from island effects. Provided that the presence of island effects means the presence of movement, the grammaticality of these two examples shows

that no movement is involved in these cases. This, in turn, indicates that the relative gap being a covert pronominal (*pro*) must be an option available in argument relativization (Kuno 1973; Murasugi 1991; among others). Under this proposal, the structures of (7b, c) must be as in (8a, b).

- (8) a. *[[[pro<sub>1</sub> pro<sub>2</sub> kiteiru] yoohuku<sub>2</sub>] ga yogoreteiru] sinsi<sub>1</sub>*  
           wearing.is suit NOM dirty.is gentleman  
       b. *[[pro<sub>1</sub> sinda noni] daremo kanasimanakatta] hito<sub>1</sub>*  
           died although anyone saddened.not.was person

It is then of no surprise that no island effect is observed in (7b, c), and thus in Japanese argument relativization.

In contrast, as observed in Inoue (1976), Murasugi (1991), and Saito (1985), in the adjunct relativization exemplified in (9), long-distance dependency is not available, even if no island intervenes.

- (9) *[Hanako ga [Taroo ga hasitta to] itta] riyuu*  
       Hanako NOM Taro NOM ran that said reason  
       ‘the reason that Hanako said that Taro ran’

This example refers to the reason for which Hanako made the statement on Taro’s running, but it does not refer to the reason for which Taro ran, according to Hanako. This fact is quite surprising given that argument relativization even tolerates islands. Under the *pro*-based account, we need to exclude the structure given in (10).

- (10) *[Hanako ga [Taroo ga pro<sub>1</sub> hasitta to] itta] riyuu<sub>1</sub>*  
       Hanako NOM Taro NOM ran that said reason

Murasugi (1991) attributes the unavailability of the structure in (10) to the assumption that *pro*’s are only available to arguments (Murasugi and Saito 1992). Accordingly, no manner/reason *pro*’s are available in Japanese. Thus, (10) is not tenable.

Under the *pro*-based account, it is thus not surprising that Japanese relative clauses are free from island effects. Furthermore, the fact that long-distance interpretation is not readily available with adjunct relativization is also correctly predicted. Furthermore, since no movement is required in Japanese relativization, no relative gap is necessitated either. Now, Kuno’s first observation that Japanese relativization does not require a gap also follows.

Within the framework of Lasnik and Saito (1992), Murasugi (1991) further argues that the Japanese relative clauses are IP in category, which means that no CP SPEC is available for the relative operator to move to. The IP hypothesis thus provides a reason why Japanese relativization does not involve movement.



### 3 Evidence for Movement

Attractive though the no-movement approach may be, there is evidence that movement is involved in Japanese argument relativization. We present three pieces of evidence for the movement in question in this section. Section 3.1 concerns evidence from anaphor binding. Section 3.2 discusses idiomatic interpretation. Section 3.3 deals with weak crossover (WCO) effects that Japanese argument relativization exhibits.

#### 3.1 Anaphor Binding

It has been well attested that English relativization exhibits reconstruction effects in anaphor binding (Jackendoff 1972; Barss 1986; among others). In (11), the reflexive *himself* contained in the relative head is successfully bound by *John* located within the relative clause, although the relative head that contains the reflexive is not c-commanded by the intended antecedent in overt syntax.

- (11) *the picture of himself<sub>1</sub> [which John<sub>1</sub> likes [e]]*

The grammaticality of (11) thus shows that the reflexive itself or a phrase related to the relative head that contains it through predication must have been c-commanded by the antecedent at some point in the derivation. In (11), it must be the relative pronoun *which* moved from the position *[e]* that is c-commanded by *John*.

Bearing this discussion in mind, consider (12) cited from Hasegawa (1988: 59).

- (12) \**[John ga e<sub>1</sub> taipusita] zibun no ronbun<sub>1</sub>*  
       John NOM       type.did self GEN paper  
       ‘(lit.) self’s paper that John typed’

Notably, in contrast to (11), this example is unacceptable, which suggests that no reconstruction is available in Japanese argument relativization. This, in turn, suggests that no movement is involved in Japanese relativization, which is consistent with the no-movement hypothesis.

However, Ishii (1991) observes that once we replace *zibun* with *karezis* ‘himself’, a different picture emerges. Consider (13).

- (13) *Mary wa [[John<sub>1</sub> ga e<sub>2</sub> taipusita] karezis<sub>1</sub> no ronbun<sub>2</sub>] o mottekita.*  
       Mary TOP John NOM type.did himself GEN paper ACC brought  
       ‘Mary brought himself<sub>1</sub>’s paper that John<sub>1</sub> typed.’ (Ishii 1991: 29)

The grammaticality of this example shows that reconstruction effects emerge with the reflexive *-zis*, which shows that Japanese relativization in fact involves move-

ment. Accordingly, the ungrammaticality of (12) must be independent of the availability of anaphoric binding (see Ishii 1991).

Ishii also observes that the reflexive *-zisin* cannot find its antecedent within an island, as shown in (14), which indicates that reconstruction effects cease to emerge when an island intervenes.

- (14) ?\*[*Mary ga [[John<sub>1</sub> ga e<sub>2</sub> e<sub>3</sub> miseta koto ga aru]*  
 Mary NOM John NOM showed fact NOM exist  
*hito<sub>2</sub>] o sitteiru] karezisin<sub>1</sub> no syasin<sub>3</sub>*  
 person ACC know himself GEN picture  
 ‘(lit.) the picture of himself which Mary knows the person to whom  
 John has once showed’ (Ishii 1991:30)

Kizu (2005), however, observes that even if no island intervenes, only an element in the higher clause can be the antecedent of the reflexive/anaphor contained in a relative clause, as shown in (15a, b), the latter of which is from Kizu (2005: 151).

- (15) a. [*Mary<sub>1</sub> ga [John<sub>2</sub> ga e<sub>3</sub> taipusita to] omotteita]*  
 Mary NOM John NOM type.did that thought  
*kanozyozisin<sub>1</sub> / ?\*karezisin<sub>2</sub> no ronbun<sub>3</sub> wa subarasikatta.*  
 herself/himself GEN paper TOP wonderful.was  
 ‘The paper of herself/himself that Mary thought that John typed was wonderful.’
- b. [*Hanako to Taroo<sub>1</sub> ga [sensei gata<sub>2</sub> ga e<sub>3</sub> atta*  
 Hanako and Taro NOM each PL NOM met  
*to] omotteiru] otagai<sub>1/\*2</sub> no yuuzin<sub>3</sub>*  
 that think each.other GEN friend  
 ‘each other’s friend that Hanako and Taro think that the teachers met’

These examples thus show that reconstruction effects in binding are observed only in the higher clause. Kizu calls this effect “highest clause sensitivity”. We add two more pieces of evidence for this effect.

### 3.2 Idiomatic Interpretation

The presence of idiomatic interpretation has been taken as another piece of evidence for movement (Schachter 1973; Vergnaud 1974; Aoun and Li 2003; among others). Consider (16a, b) cited from Schachter (1973).

- (16) a. *The careful track that she's keeping [e] of her expenses pleases me.*  
 b. *The headway that Mel made [e] was impressive.*

(17a, b) further show that the intended long-distance dependency poses no problem.

- (17) a. *The careful track that John believes that she's keeping [e] of her expenses pleases me.*  
 b. *The headway that John believes that Mel made [e] was impressive.*

Now, given the assumption that the constituency of the relevant parts is required for idiomatic interpretation, the relative head must be located in the [e] position within the relative clause at some point in the derivation. If the relative head or an element related to it has been raised from the [e] position, the availability of the idiomatic interpretation in (16a, b) and (17a, b) thus follows. Accordingly, the availability of idiomatic interpretation provides a good testing ground for the availability of movement in the construction under consideration.

Inoue (1976) shows that Japanese relativization also permits idiomatic interpretation, although it is a little degraded, as shown in (18a, b).

- (18) a. *[[Karera ga magarinarinimo e<sub>i</sub> tuketa] kettyaku<sub>i</sub>] wa*  
           they NOM somehow.or.other reached conclusion TOP  
*amari yorokobarenakatta.*  
           much pleased.make.not

'The end that they brought it to did not make other people pleased.'

(Inoue 1976: 214)

- b. *[[Taroo ga sono ronbun ni e<sub>i</sub> tuketa] keti<sub>i</sub>] ni tatarareru.*  
      Taro NOM that paper DAT attached fault DAT haunted.is  
      '(Someone) is haunted by the fault that Taro found on that paper.'

Given the conclusion reached in (16a, b) and (17a, b), the fact that these examples permit the idiomatic interpretation constitutes evidence for the movement in short-distance relativization.

Again, in the long-distance relativization, if the idiomatic expression is within the lower clause, the idiomatic interpretation becomes unavailable. For example, the idiomatic interpretation is more difficult, if not impossible, to obtain in (19) than (18b).

- (19) *[Hanako ga [Taroo ga sono ronbun ni e<sub>i</sub> tuketa*  
       Hanako NOM Taro NOM that paper DAT attached  
*to] sinziteiru] keti<sub>i</sub> ni tatarareta.*  
      that believe fault DAT haunted.was

'(Someone) was haunted by the fault that Hanako believes that Taro found on that paper.'

The contrast between (19) and (17a, b) thus shows that the highest clause sensitivity is also observed in the availability of idiomatic interpretation.

### 3.3 Weak Crossover Effects

Ishii (1991) presents the presence of weak crossover (WCO) effects as another piece of evidence for movement in Japanese relativization. First, consider (20a, b).

- (20) a. *Dono daikigyoo<sub>1</sub> ga soko<sub>1</sub> no kogaisya o*  
           which big.enterprise NOM that.place GEN subsidiary ACC  
           *tyoosasita no.*  
           investigation.did Q  
           ‘Which big enterprise investigated its subsidiaries?’
- b. \**Soko<sub>1</sub> no kogaisya ga dono daikigyoo<sub>1</sub> o*  
       that.place GEN subsidiary NOM which big.enterprise ACC  
       *tyoosasita no.*  
       investigation.did Q  
       ‘Which big enterprise did its subsidiaries investigate?’

Descriptively speaking, in a configuration where a pronoun P and a trace T are both bound by a quantifier Q, T must c-command P (Stowell and Lasnik 1991). In (20a, b), the *wh*-phrase is assumed to be covertly raised to CP SPEC, and the trace left behind c-commands the pronoun in (20a), but not in (20b). As a result, the latter example is excluded.

Ishii (1991) observes that Japanese relativization also exhibits WCO effects, as shown in the contrast between (21a) and (21b).

- (21) a. *?[e<sub>1</sub> [soko<sub>1</sub> no kogaisya] o tyoosasita]*  
           that.place GEN subsidiary ACC investigation.did  
           *hutatu no daikigyoo<sub>1</sub>*  
           two.CLF GEN big.enterprise  
           ‘the two big enterprises that investigated its subsidiaries’
- b. \**[[soko<sub>1</sub> no kogaisya] ga e<sub>1</sub> tyoosasita]*  
       that.place GEN subsidiary NOM investigation.did  
       *hutatu no daikigyoo<sub>1</sub>*  
       two.CLF GEN big.enterprise  
       ‘its subsidiaries that investigated the two big enterprises’

If  $e_i$  is a trace left by movement, it fails to c-command the pronoun. Accordingly, (21b) is ruled out, parallel to (20b). The ungrammaticality of (21b) thus constitutes evidence for movement in short-distance relativization.

In contrast, long-distance relativization, again, shows the highest clause sensitivity. Consider (22a, b). This time, WCO effects disappear.

- (22) a. [keisatu ga [e<sub>i</sub> soko<sub>i</sub> no kogaisya o  
 police NOM that.place GEN subsidiary ACC  
 tyoosasita] to sinziteiru] hutatu no daikigyoo<sub>i</sub>  
 investigation.did that believe two.CLF GEN big.enterprise  
 ‘the two big enterprises that the police believes investigated its subsidiaries’
- b. [keisatu ga [soko<sub>i</sub> no kogaisya ga e<sub>i</sub>  
 police NOM that.place GEN subsidiary NOM  
 tyoosasita] to sinziteiru] hutatu no daikigyoo<sub>i</sub>  
 investigation.did that believe two.CLF GEN big.enterprise  
 ‘the two big enterprises that the police believes that its subsidiaries investigated’

If the movement were also involved in (22b), we would expect this example to be ungrammatical, parallel to (21b). The fact that (22a, b) are both acceptable thus shows that no WCO effect is observed with long-distance relativization. This in turn indicates that no movement is involved in the case in point.

### 3.4 Interim Summary

In this section we have elucidated three properties of Japanese relative clauses, showing that movement is involved in the construction: (I) anaphor binding, (II) idiomatic interpretation, and (III) weak crossover (WCO) effects. However, these three instances of reconstruction effects are observable only in the highest clause. This means that the relevant movement takes place only short-distance within the highest clause, as Ishii (1991) and Kizu (2005) propose. Japanese relativization must then come in two types: Short-distance relativization involves movement whereas long-distance relativization must make use of the resumptive *pro*. Yet, the discussion on anaphoric binding in Section 3.1 shows that long-distance relativization should have an option of incorporating short-distance movement.

## 4 No Head-Raising in Japanese Relativization

Granted that short-distance relativization must, and long-distance relativization can, involve movement, we now clarify the nature of the movement involved in Japanese

relativization. In the literature, two proposals have been entertained concerning the nature of movement involved in relativization: the relative head-raising approach (Schachter 1973; Vergnaud 1974; Kayne 1994; Hoshi 2004; among others) and the Op-movement approach (Chomsky 1977; Safir 1986; Browning 1987; among others). Given these proposals, we seek evidence as to which type of movement is involved in Japanese short-distance relativization.

Murasugi (2000) examines Japanese relativization under the Kaynean approach. According to Kayne, head-final languages have the derivational steps given in (23).

- (23) a.  $[_{DP} [_{D'} D [_{CP} [_{C'} C [_{IP} \dots NP \dots ]]]]]$   
 b.  $[_{DP} [_{D'} D [_{CP} NP_1 [_{C'} C [_{IP} \dots t_1 \dots ]]]]]$   
 c.  $[_{DP} [_{IP} \dots t_1 \dots ]_2 [_{D'} D [_{CP} NP_1 [_{C'} C t_2 ]]]]$

The relative head is the NP in (23a). First, this NP is raised to CP SPEC, as shown in (23b). Then, the relative clause IP comes to occupy DP SPEC, as in (23c).

Murasugi's concern is whether the trace left by the relative head raising within the IP is legitimate. Notice that the movements illustrated in (23) are not instances of scrambling and thus, the relative head cannot be reconstructed into the original position in LF (Saito 1989). Accordingly, given the assumption that traces must be bound (Fiengo 1977; May 1977), (23c) is excluded, parallel to (24), since  $t_1$  is unbound.<sup>1</sup>

- (24) \*Which picture of  $t_1$  do you wonder who<sub>*i*</sub> Hanako saw?

Accordingly, in order to generate the head final word order, we need to base-generate the relative head NP in CP SPEC, and the relative clause IP should contain *pro*, as illustrated in (25), so that we would not end up having the unbound trace within the IP.

- (25)  $[_{DP} [_{IP} \dots pro_1 \dots ]_2 [_{D'} D [_{CP} NP_1 [_{C'} C t_2 ]]]]$

Now, we reach the conclusion that Japanese, a head-final language, does not involve movement within the relative clause. However, we have already had evidence in Section 3 that movement is involved in short-distance relativization. The only possible way to resolve this conflict would be not to adopt the Kaynean head-raising approach to Japanese short-distance relativization. This, in turn, means that the movement involved in Japanese relativization is Op-movement, as illustrated in (26).

<sup>1</sup> Murasugi's (2000) original claim is based on Saito's (1986) proposal that an A-trace can be chain-bound while an A'-trace must be bound by an antecedent that c-commands it. Given the assumption that the movement to CP SPEC is an instance of A'-movement, she proposes that (23c) is not tenable since  $t_1$  is unbound. See also Lasnik and Saito (1992) for relevant discussion.

- (26) [<sub>DP</sub> [<sub>D'</sub> [<sub>NP</sub> [<sub>CP</sub> *Op*<sub>1</sub> [<sub>IP</sub> ... *t*<sub>1</sub> ...]]] [<sub>NP</sub> ... *N* ...]] *D*]]

The structure in (26) brings us a welcome consequence on the unavailability of NP-ellipsis to be triggered by a relative clause.<sup>2</sup> Saito, Lin and Murasugi (2008) show that Japanese relativization does not permit NP-ellipsis. Consider (27).

- (27) *Taroo ga kinoo atta hito wa yasasii ga*  
 Taro NOM yesterday met person TOP kind though  
*Hanako ga kinoo atta \*(hito) wa kowai.*  
 Hanako NOM yesterday met person TOP scary  
 'The person Taro saw yesterday is kind, but the person Hanako saw  
 yesterday is scary.' (Saito, Lin and Murasugi 2008: 263)

This may seem trivial to some readers since relative clauses are generally considered as a typical case of adjuncts, and we independently know that adjuncts in general do not license NP-ellipsis, as exemplified in (28):

- (28) *Hare no hi wa yoi keredo, ame no \*(hi) wa otikomu.*  
 clear GEN day TOP good though rain GEN day TOP feel.depressed  
 'Clear day are OK, but I feel depressed on rainy days.'  
 (Saito, Lin and Murasugi 2008: 248)

However, once we turn our attention to Chinese, relative clauses do license NP-ellipsis, as shown in (29) (see also Aoun and Li 2003; Miyamoto 2014).

- (29) *Wo zuotian kanjian de nanhai bi [ni zuotian kanjian*  
 I yesterday see DE boy than you yesterday see  
*de (nanhai)] geng youqian.*  
 DE boy more rich  
 'The boy I saw yesterday is richer than the boy you saw yesterday.'  
 (Saito, Lin and Murasugi 2008: 263)

The question to be raised is, then, why NP-ellipsis is available in Chinese, but not in Japanese. Suppose that SPEC must be filled in order to license NP-ellipsis (Lobeck 1990; Saito and Murasugi 1990; Saito, Lin and Murasugi 2008). Then, a Chinese relative clause, but not its Japanese counterpart, must be generated in the position from which it can be raised to DP SPEC. However, notice that this is exactly what we saw in (23c) and (25). We are then led to choose the structure in (26), which correctly predicts the unavailability of NP-ellipsis in Japanese relativization.

<sup>2</sup> See Chapter 19 (Saito, this volume) for discussion on ellipsis.

Yet, Takahashi (2011) claims that NP-ellipsis can be triggered by a relative clause. The type of examples given by Takahashi is exemplified in (30).

- (30) *[[Kinoo okonawareta] syuzyutu] wa kantan datta ga*  
 yesterday done.was operation TOP simple was though  
*[[kyoo yoteisareteiru] \*(no)] wa kanari muzukasii.*  
 today planned.is NO TOP very difficult  
 ‘(lit.) The operation that was done yesterday was simple, but the operation  
 that is planned today is very difficult.’

For Takahashi, the *no* that appears with a relative clause is the genitive Case marker (see Takahashi 2011 for the detailed analysis). Under the Op-movement approach, illustrated in (26), on the other hand, (30) cannot be a true instance of NP-ellipsis. Rather, the *no* attached to a relative clause must be the pronominal *no*, acting as the relative head.

Miyamoto (2013) provides a variety of arguments for *no* being pronominal in cases like (30). One of his arguments is based on the grammatical contrast between (30) and (31) below.

- (31) *\*[[Hanako ga sensei ni miseta] taido] wa ii ga*  
 Hanako NOM teacher to showed attitude TOP good though  
*[[Taroo ga (sensei ni) miseta] (no)] wa yoku nai.*  
 Taro NOM teacher to showed NO TOP good not  
 ‘The attitude which Hanako showed to her teacher is good, but the attitude  
 which Taro showed to his teacher is not good.’

If (30) is a true instance of NP-ellipsis, triggered by the relative clause, we should expect that the same derivational steps are available in (31). We then predict that the intended NP-ellipsis is available in this example. Accordingly, under the ellipsis-based account of (30), it is not clear why (31) is ungrammatical.

Under the Op-movement approach, the ungrammaticality of (31) is due to Kamio’s (1983) condition on the pronominal *no*, which states that an abstract noun cannot be replaced by the pronominal *no*. Accordingly, the remaining question is why the pronominal *no* can appear in (30), but not in (31). In this regard, the view of Quirk et al. (1985: 299) on abstract nouns becomes relevant. They state that “some [abstract non-count nouns] can be reclassified as count nouns where they refer to an instance of a given abstract phenomenon.” Given this, we now understand why (30) accepts the pronominal *no*. This example refers to two instances of the action described by the noun *syuzyutu*, and this noun no longer behaves as a typical instance of an abstract noun. If so, Kamio’s condition does not prevent the pronominal *no* from appearing in (30). In contrast, *taido* ‘attitude’ does not refer to particular instances



associated with this particular concept. Thus, Kamio's condition does exclude the pronominal *no* in (31). The contrast between (30) and (31) thus constitutes evidence against an NP-ellipsis based account on (30), and thus against the Kaynean head-raising approach.

Supporting evidence for our conclusion can be found in the Nagasaki dialect, in which the genitive Case marker *no* is realized as *n(o)*, whereas the pronominal *no* appears as *to*. Given the conclusion that the *no* attached to a relative clause is the pronominal *no*, we expect that relative clauses should be accompanied by *to*, but not *n(o)* in this dialect. This prediction seems to be borne out, as shown in the contrast between (32a), the Tokyo dialect, and (32b), the Nagasaki dialect.

- (32) a. *Taroo wa [[JEAL ni keisaisareta no] ga itiban da to] omotteiru.*  
 Taro TOP JEAL in published.was NO NOM best is that think  
 'Taro thinks that the one that was published in JEAL is the best.'
- b. *Taroo wa [[JEAL ni keisaisareta to] ga itiban ya to] omottoru.*  
 Taro TOP JEAL in published.was TO NOM best is that think  
 'Taro thinks that the one that was published in JEAL is the best.'

To conclude, we now have established that Japanese short-distance and long-distance relativization involves Op-movement in the configuration given in (33a, b).

- (33) a. *Short-distance Relativization*  
 $[_{DP} [_{D'} [_{NP} [_{CP} Op_1 [_{IP} \dots t_1 \dots]] [_{NP} \dots N \dots]_1] D]]$
- b. *Long-distance Relativization*  
 $[_{DP} [_{D'} [_{NP} [_{CP} Op_1 [_{IP} \dots [_{CP} (t_1) [_{IP} \dots pro_1 \dots]] \dots]] [_{NP} \dots N \dots]_1] D]]$

In (33a), for a reason to be clarified in future research (but see Section 7), the Op-movement option must be chosen. In (33b), on the other hand, the resumptive *pro* is in the lower clause, and the Op can be base-generated in CP SPEC, although short-distance movement must be an option available in this case.

## 5 Absence of Island Effects with Argument Relativization

Recall from Section 2 that under the no-movement approach, the reason why (7a, b), repeated here as (34a, b), are grammatical despite the presence of the island, is that Japanese relativization does not involve movement.



Note that these are instances of short-distance relativization, and thus, they should be allowed. As a consequence, no island is crossed, and thus no island effect results in these examples.

Sakai further argues that his proposal provides a natural account of Inoue (1976)-Hasegawa's (1984/1985) generalization which states that no Complex NP violation is detectable only if extraction of subject takes place out of the subject. For example, (38a, b) are clearly worse than (34a, b).

- (38) a. ??[Bill *ga* [[*e*<sub>1</sub> *e*<sub>2</sub> *kaita*] *hon*<sub>2</sub>] *o* *yakusiteiru*] *gakusya*<sub>1</sub>  
 Bill NOM wrote book ACC translating.is scholar  
 'the scholar<sub>1</sub> that Bill is translating the book<sub>2</sub> that t<sub>1</sub> wrote t<sub>2</sub>'  
 (Inoue 1976: 178)

- b. ??[[*sono gakusya ga e*<sub>1</sub> *e*<sub>2</sub> *okutta*] *syoten*<sub>1</sub>] *ga yaketa*] *hon*<sub>2</sub>  
 that scholar NOM sent bookstore NOM burned book  
 'the book<sub>1</sub> that the bookstore<sub>2</sub> that that scholar sent t<sub>1</sub> t<sub>2</sub> burned down'  
 (Inoue 1976: 179)

Crucially, as pointed out by Sakai, examples like these do not have their "major subject" counterparts, as shown in (39a, b).

- (39) a. ??*Sono gakusya*<sub>1</sub> *mo Bill ga* [[*e*<sub>1</sub> *e*<sub>2</sub> *kaita*] *hon*<sub>2</sub>] *o yakusiteiru*.  
 that scholar also Bill NOM wrote book ACC translating.is  
 'The scholar is also such that Bill is translating the book that he/she wrote.'
- b. ??*Sono hon*<sub>2</sub> *ga* [[*sono gakusya ga e*<sub>1</sub> *e*<sub>2</sub> *okutta*] *syoten*<sub>1</sub>] *ga yaketa*.  
 that book NOM that scholar NOM sent bookstore NOM  
 burned  
 'The book is such that the bookstore that that scholar sent it burned down.'

Accordingly, the derivation of the type illustrated in (37a, b) is not available to (38a, b), and thus, in these examples, extraction of the Op is necessarily from within the relative clause, which should yield island effects.

However, notice that if the intended movement takes place from within the relative clause, this is an instance of long-distance relativization. Accordingly, given the discussion in Section 3, the *pro* option must be selected. If so, the marginality of (38a, b) should not be attributed to the presence of islands.

In this respect, Saito's (1985: 285) comment on Inoue-Hasegawa's generalization is relevant. He points out the difference in the degree of marginality between examples like (38a, b) and typical island violations, exemplified in (40a, b).

(40) a. ?\**Ano hon o<sub>2</sub> John ga [[e<sub>1</sub> e<sub>2</sub> katta] hito<sub>1</sub>] ni aitagatteiru rasii.*  
           that book ACC John NOM           bought person DAT meet.want seem  
           ‘It seems that John wants to meet the person who bought the book.’

b. ?\**Russell ni<sub>2</sub> John ga [[e<sub>1</sub> e<sub>2</sub> atta koto ga aru] hito] o<sub>1</sub>*  
           Russell DAT John NOM           met fact NOM have person ACC  
           *mituketa rasii.*  
           found seem  
           ‘It seems that John found a person who actually met Russell.’

(Saito 1985: 285–286)

Given that (40a, b) are in violation of the Subjacency Condition, (38a, b) should not be analyzed in the parallel fashion since these examples are less marginal than (40a, b). Thus, Saito concludes that (38a, b) are ruled out by a constraint milder than Subjacency.

Considering the fact that the resumptive *pro* strategy yields weak marginality (cf. Chomsky 1977; Sells 1984; among others), Ishii (1991) suggests that (38a, b) are a little degraded because these examples make use of a resumptive *pro* within an island.<sup>3</sup> To the extent that this account is correct, we have evidence that no movement is involved in these examples. Yet, since (34a, b) do not even exhibit this weak marginality, Ishii also concludes that these examples do not make use of resumptive *pro*’s, which, in turn, indicates that they involve movement, as Sakai (1994) proposes.

To recapitulate, this section introduced Sakai’s “major subject”-based analysis of apparent Subjacency violation with relative clauses. To the extent that Ishii’s proposal on (38a, b), based on Saito’s suggestion on Inoue-Hasegawa’s generalization, is correct, we now have reason to maintain both movement- and *pro*-based approaches to Japanese relativization, and the movement option can be chosen only for short-distance relativization or part of long-distance relativization.

## 6 No Long-distance Adjunct Relativization

Given that the movement option is exclusively for short-distance relativization, we can also account for the important observation, discussed in Section 2, that long-distance adjunct relativization is not possible in Japanese. On this issue, we can maintain Murasugi’s (1991) account of why (9), repeated here as (41), cannot refer to the reason why Taro ran, according to Hanako.

<sup>3</sup> As noted in Ishii (1991: 90), judgments of sentences with a resumptive pronoun vary among native speakers.

- (41) [*Hanako ga [Taroo ga hasitta to] itta*] *riyuu*  
 Hanako NOM Taro NOM ran that said reason  
 ‘the reason that Hanako said that Taro ran’

Under the assumption that *pro*’s are available only in argument positions, the reason *pro* is not available in this example. As a result, the structure given in (42) is unavailable to (41).<sup>4</sup> Accordingly, the intended interpretation is untenable.

- (42) [*Op<sub>1</sub> [Hanako ga [Taroo ga *pro<sub>i</sub>* hasitta to] itta]*] *riyuu<sub>i</sub>*  
 Hanako NOM Taro NOM ran that said reason  
 ‘the reason that Hanako said that Taro ran’

Likewise, as Murasugi (1991) points out, relativization of manner PPs is also clause-bound. For example, (43) is not acceptable in describing the way Taro ran, according to Hanako. It can only refer to the way Hanako made the statement on how Taro ran.

- (43) [*Hanako ga [Taroo ga hasitta to] itta*] *hoohoo*  
 Hanako NOM Taro NOM ran that said method  
 ‘the method that Hanako said that Taro ran’

Again, the unambiguity of this example is due to the lack of the manner *pro*.

In contrast, it has been argued (Murasugi 1991; Murasugi and Saito 1992) that temporal and locative elements have an argument status. Accordingly, temporal/locative *pro*’s are available to (44a, b). Thus, the availability of the lower reading is correctly predicted.

- (44) a. [*Op<sub>1</sub> [Hanako ga [Taroo ga *pro<sub>i</sub>* hasitta to] itta]*] *hi<sub>i</sub>*  
 Hanako NOM Taro NOM ran that said day  
 ‘the day that Hanako said that Taro ran’  
 b. [*Op<sub>1</sub> [Hanako ga [Taroo ga *pro<sub>i</sub>* hasitta to] itta]*] *basyo<sub>i</sub>*  
 Hanako NOM Taro NOM ran that said place  
 ‘the place that Hanako said that Taro ran’

Furthermore, as Murasugi’s (1991: 131) shows, the contrast between temporal/locative and manner/reason cases with respect to the availability of the lower reading remains even when an island intervenes. The lower reading is only available in (45a, b).

<sup>4</sup> I assume that reason adjuncts are generated in IP. See Ko (2005, 2006) and Takita (2007) for relevant discussion.

- (45) a. *[[[mensetu o uketa] gakusei] ga minna ukaru] hi*  
 interview ACC received student NOM all pass day  
 ‘the day that all the students who have had an interview will pass’
- b. *[[[mensetu o uketa] gakusei] ga minna ukaru] kaigisitu*  
 interview ACC received student NOM all pass conference.room  
 ‘the conference room that all the students who have had an interview will pass’
- c. *[[[mondai o toita] gakusei] ga minna siken ni otiru] hoohoo*  
 problem ACC solved student NOM all exam in fail method  
 ‘the method that all the students who have solved the problem will fail in the examination’
- d. *[[[kubi ni natta] hito] ga minna okotteiru] riyuu*  
 neck be became person NOM all angry reason  
 ‘the reason that all the people who got fired are angry’

Recall from the discussion in Section 5, however, that the resumptive *pro* option should result in weak marginality when an island intervenes. Yet, (45a, b) are fully acceptable under the intended reading. This suggests that the Op must have moved from the major subject position in these examples. We independently know (Kuno 1973) that temporal and locative elements can act as a major subject, as shown in (46a, b), in contrast to (46c, d).

- (46) a. *Sono hi ga Hanako ga [Taroo ga hasitta to] itta.*  
 that day NOM Hanako NOM Taro NOM ran that said  
 ‘The day is such that Hanako said that Taro ran.’
- b. *Sono basyo ga Hanako ga [Taroo ga hasitta to] itta.*  
 that place NOM Hanako NOM Taro NOM ran that said  
 ‘The place is such that Hanako said that Taro ran.’
- c. *\*Sono hoohoo ga Hanako ga [Taroo ga hasitta to] itta.*  
 that method NOM Hanako NOM Taro NOM ran that said  
 ‘The method is such that Hanako said that Taro ran.’
- d. *\*Sono riyuu ga Hanako ga [Taroo ga hasitta to] itta.*  
 that reason NOM Hanako NOM Taro NOM ran that said  
 ‘The reason is such that Hanako said that Taro ran.’

Accordingly, under the current proposal, the structures of (45a–d) must be as shown in (47a–d) respectively.

- ‘the reason that all the people who got fired are angry’

(49) An operator  $O^\alpha$  in the specifier of CP adjoined to NP may be null iff

- a.  $O^\alpha$  has the syntactic features of the head of NP; or
- b.  $O^\alpha$  has the syntactic features of  $O^\beta$ , where  $O^\beta$  is licensed in the specifier of CP and  $O^\beta$  is overt.

(49a) can be respected if the relative Op is DP in category. (49b) means that if a language permits the overt counterpart of the covert relative Op, then the categorial matching between the relative Op and the relative head is not required. In other words, the relative Op does not have to be DP in category. For example, (48) can have the overt relative operator *why*, as shown in (50).

(50) *the reason why Hanako said that Taro ran*

Therefore, under (49b), the covert relative Op, being non-DP in category, can be selected in English. Notice that Japanese cannot meet the requirement in (49b) because no overt relative pronoun is available in this language, as noted in Section 1. As a result, the covert relative Op must meet (49a) in Japanese. In other words, the relative Op must always correspond to DP in category in Japanese. Consequently, (44a, b) and (49a, b) cannot involve Op-movement either. Kaplan and Whitman assume that these cases are instances of a pure complex NP with a temporal/locative *pro* in the lower clause, as Murasugi (1991) proposes.

Although the condition in (49) can exclude (41) and (43), the condition itself still needs motivating. Under the present proposal, on the other hand, the condition in (49) can be dispensed with. We find it a welcome consequence of the present approach to Japanese relativization.

## 7 Concluding Remarks

This chapter discussed the syntactic properties of Japanese relativization. We showed that short-distance relativization must be distinguished from long-distance relativization in that Japanese short-distance relativization involves Op-movement and long-distance relativization makes use of *pro*'s along with optional short-distance Op-movement, as shown in (51a, b).

- (51) a.  $[_{DP} [_{D'} [_{NP} [_{CP} Op_1 [_{IP} \dots t_1 \dots]]] [_{NP} \dots N \dots]_1] D]$   
 b.  $[_{DP} [_{D'} [_{NP} [_{CP} Op_1 [_{IP} \dots [_{CP} (t_1) [_{IP} \dots pro_1 \dots]]] \dots]] [_{NP} \dots N \dots]_1] D]$

Ishii (1991) suggests that the dichotomy between short-distance relativization and long-distance relativization concerning the availability of the movement option follows from the Last Resort Principle (Chomsky 1986). A typical case in point is the one in which the *pro* option is chosen when an island intervenes. However, Kizu (2005) shows



that even when no island is present, the *pro* option must be selected in long-distance relativization. Then, the question remains as to why such a dichotomy is permitted in Universal Grammar.

Notably, the pattern that we observe in Japanese relativization, shown in (51a, b), does not seem to be a language-particular property of Japanese relativization. Schneider-Zioga (2009) shows that Kinande exhibits the contrast between short-distance and long-distance *wh*/focus movement with respect to reconstruction. Consider (52a, b).

- (52) a. *[ekitabu kiwe<sub>1</sub>]<sub>2</sub> ky' [obuli mukolo]<sub>1</sub> akasoma e<sub>2</sub> kangikangi*  
 book his wh.AGR each student reads regularly  
 'It is) his book that every student reads regularly'
- b. *\*[ekitabu kiwe<sub>1</sub>]<sub>2</sub> kyo ngalengekanaya [CP nga kyo*  
 book his wh.AGR I.think that wh.AGR  
*[obuli mukolo]<sub>1</sub> akasoma e<sub>2</sub> kangikangi]*  
 each student reads regularly  
 'It is) his book that I think every student reads regularly'
- (Schneider-Zioga 2009: 49)

In (52a), *kiwe* ‘his’ can be bound by *obuli mukolo* ‘each student’. This shows that reconstruction is possible with short-distance focus movement. Of significance is her observation that the reconstruction in question is blocked in (52b). Now, it is tempting to analyze Kinande and Japanese in a uniform way. Yet, there is an obvious difference between the two languages in that the Kinande examples, in contrast to the Japanese examples, show overt (*wh*-)agreement.

In spite of this apparent difference, as Kizu (2005) points out, given Watanabe's (1996) analysis of *ga-no* conversion, we see that agreement, overt or covert, is a crucial factor in understanding both Japanese and Kinande facts.<sup>5</sup> Watanabe's important observation is that the conversion in point is possible only in the highest clause. Consider (53a–c).

- (53) a. [[John *ga* *e*<sub>2</sub> *katta to*]<sub>1</sub> *Mary no t*<sub>1</sub> *omotteiru*] *hon*<sub>2</sub>  
           John NOM       bought that Mary GEN       think       book  
           ‘(It is) his book that every student read regularly’
- b. \*[[John *no* *e*<sub>2</sub> *katta to*]<sub>1</sub> *Mary ga/no t*<sub>1</sub> *omotteiru*] *hon*<sub>2</sub>  
           John GEN       bought that Mary NOM/GEN       think       book
- c. \*[[Mary *ga/no*       [John *no* *e*<sub>2</sub> *katta to*] *omotteiru*] *hon*<sub>2</sub>  
           Mary NOM/GEN John GEN       bought that think       book

5 See Chapter 18 (Ochi, this volume) for discussion on *ga-no* conversion.

In (53a), the embedded clause is scrambled so that any intervention effect can be avoided. The contrast between (53a) and (53b) shows that in the scrambled context, the subject of the embedded clause cannot be GEN-marked. Furthermore, the fact that both (53b) and (53c) are ungrammatical shows that the embedded subject cannot be GEN-marked, independent of whether the embedded clause is scrambled or not. Under the Case system that Watanabe assumes, this means that *ga-no* conversion is possible only in the AGR-T-C context, just like *wh*-agreement of French stylistic inversion. Now, it is quite plausible to see that the same operation is operative within the highest clause in Kinande and Japanese. The difference between the two languages may be due to whether relevant agreement is present in the CP domain of the lower clauses, which may decide the way resumption takes place. We leave this illuminating issue for future research. Deeper understanding of the nature of this clause-bounded Op-movement will surely enhance our understanding of not only Japanese syntax but also the architecture of Universal Grammar.

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# 17 Expressions that contain negation

## 1 Introduction

Since the seminal work of Klima (1964), the syntactic study of negation has contributed greatly to the elucidation of clausal structures and structural relations that are crucial to the scope of operators and to licensing relations between various linguistic expressions.<sup>1</sup> In the study of Japanese syntax, the central issues surrounding negation have been the scope of negation and the distribution of items that occur only in negative sentences. These items have been generally termed negative polarity items (NPIs), of which representative ones are indeterminate pronouns with *mo*, which will be referred to as wh-MO such as *daRE-MO* ‘who-MO’, *naNI-MO* ‘what-MO’,<sup>2</sup> and exceptive XP-*sika* ‘only XP’.<sup>3</sup>

- (1) a. *daRE-MO susi o tabe\*(-nakat)-ta.*  
 who-MO sushi ACC eat\*(-NEG)-PST  
 ‘No one ate sushi.’
- b. *Gakusei ga naNI-MO tabe\*(-nakat)-ta.*  
 students NOM what-MO eat\*(-NEG)-PST  
 ‘The students ate nothing.’

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1 The notion “A is in construction with B” that is proposed by Klima (1964) is identical with “A is c-commanded by B” defined by Reinhart (1976), which has been widely assumed for the definition of scope and licensing relations.

2 Kuroda (1965) calls wh-phrases in Japanese “indeterminate pronouns”, and this type of NPI has been sometimes referred to as “indeterminate with *mo*” in the literature (McGloin 1976; Y. Kato 1985; Aoyagi and Ishii 1994). The upper case will be used to indicate the location of a high-pitch tone in wh-MO. If a high-pitch tone is placed on a wh-stem such as *DAre-mo(ga)* ‘everyone (NOM),’ the expression functions as a universally quantified expression.

3 The following can be raised as examples of other NPIs.

- (i) a. Numeral 1 + classifier (CLF) + MO: *ichi- do-mo* (one time-mo) ‘even once’, *hito-ri-mo* (one person-mo) ‘even one person’
- b. Wh + numeral 1 + CLF: *dare-hito-ri* (who-one person) ‘no one’, *nani-hito-tu* (what-one thing) ‘nothing’
- c. *Rokuna N: rokuna gakusei* (rokuna student), ‘(not) good student’, *rokuna mono* (rokuna thing), ‘(not) a good thing’
- d. N + numeral 1 + CLF: *yubi-ip-pon* (finger-one) ‘one finger’, *mizu-it-teki* (water-one drop), ‘even a drop of water’
- e. Adverbials: *kessite* ‘never’, *tittomo* ‘at all’, *mettani* ‘seldom’  
 (Cf. McGloin 1976; Y. Kato 1985; Watanabe 2004; Kishimoto 2007; Kataoka 2010)

- (2) a. *John-sika susi o tabe\*(-nakat)-ta.*  
 John-sika sushi ACC eat\*(-NEG)-PST  
 ‘Only John ate sushi.’
- b. *John ga susi-sika tabe\*(-nakat)-ta.*  
 John NOM sushi-sika eat\*(-NEG)-PST  
 ‘John ate only sushi.’

Although the term “negativity sensitive items (NSIs)”, in place of NPIs, will be introduced in section 3 as a cover term for elements that require sentential negation, and NPIs will refer to one class of NSIs, I use the familiar NPI as a cover term until then.

Some analyses concerning the clausal structures and the scope of negation have been proposed based on the distribution of NPIs (Muraki 1978; S. Kuno 2001; Kishimoto 2007, 2008; among others). However, analyses of NPIs are still at issue. Focusing on the syntax of sentential negation and NPIs, this chapter attempts to provide an overview of some recent proposals, pointing out their problems and providing alternative suggestions. To explicate the behavior of NPIs we need to understand properly at least (i) the scope of negation, (ii) the properties of NPIs, and (iii) the syntactic relationship between NPIs and negation. These issues are addressed in sections to follow.

Section 2 briefly considers the scope of negation in Japanese and validates the assumption that [Spec, TP] is not included in the scope of negation in main clauses, contrary to the opposing argument. Section 3 explores the distribution of three kinds of NPIs, considering their properties and examining their possible licensing mechanism. Section 4 presents a new perspective and suggests future directions for further development of the analysis. Final remarks are given in Section 5.

## 2 The clausal structure of sentential negation and the scope of negation

As we have already seen in (1)–(2), sentential negation in Japanese is expressed by the negative morpheme *-(a)na*, which shows adjectival inflection as part of a predicate.<sup>4</sup> Since Pollock’s (1989) original comparative study of French and English, the

<sup>4</sup> Other negative morphemes such as *-nu*, which is inflected as *-zu*, *-nu/-n*, and *-ne* (Y. Kato 1985: 2), *-mai*, and *-monka*, which express negative decision, also constitute sentential negation and I assume without further argument that analyses developed in this chapter can be extended to apply to them.

- (i) a. *Sore wa daRE-MO sir-anu koto da.*  
 that TOP who-MO know-NEG thing be.PRS  
 ‘It is the thing no one knows.’
- b. *Boku wa naNI-MO tabe-mai/taberu-monka.*  
 I TOP what-MO eat-will.NEG.PRS  
 ‘I will not eat anything.’

existence of functional head Neg and its projection NegP has been widely accepted, and much research on Japanese has also assumed NegP as the projection of the negative morpheme *-(a)na* between vP/VP and TP/IP (Takahashi 1990; Kawashima and Kitahara 1992; Aoyagi and Ishii 1994; Nishioka 1994, 2000; Yoshimoto 1998; Watanabe 2004; among many others). If this is on the right track and the scope of negation is defined as the c-command domain of Neg, vP/VP will be in its scope.<sup>5</sup> However, since some researchers assume that [Spec, TP] is included in the scope of negation (Kishimoto 2007, 2008, Saito 2010), it would be appropriate to start with a discussion of whether this is the case.

Kishimoto (2007, 2008) argues that the scope of negation in Japanese extends to the whole TP as a result of Neg-raising (2007) and LF movement of Neg to C (2008).<sup>6</sup> As evidence for the argument that [Spec, TP] is under the scope of negation, he presents data concerning the subject-object symmetry of NPI licensing.<sup>7</sup>

- (3) a. {*Gakusei-sika/Dare-hito-ri* *gakusei ga*} *hon o yom-anakat-ta*.  
 student-sika/who-one-CLF student NOM book ACC read-NEG-PST  
 ‘{Only students/Not a single student} read books.’
- b. *Gakusei ga {hon-sika/nani-hito-tu hon o} yom-anakat-ta*.  
 student NOM book-sika what-one-CLF book ACC read-NEG-PST  
 ‘The students read {only books/not a single book}.’ (Kishimoto 2007: 264)

Kishimoto claims that the grammaticality of (3a) should serve as evidence that [Spec, TP] is under the scope of negation, simply assuming that NPIs are licensed uniformly by being c-commanded by Neg at the overt positions of NPIs. However, the NPIs that Kishimoto uses are not actually NPIs but negative concord items (NCIs) (see note 7 and 3.2), and the simple c-command condition is not appropriate as the licensing condition for them. See Section 3 for analyses of NCIs in which being c-commanded by Neg at overt structures is not required.

<sup>5</sup> See S. Kuno (1980, 1983) and Takubo (1985) for earlier proposals on the scope of negation in Japanese without assuming NegP. Takubo defines the scope of negation as the c-command domain of negative morpheme and attempts to provide S. Kuno’s observation with a structural basis. However, Takubo assumes a nonconfigurational (i.e. VP-less) structure for Japanese, which has been abandoned since Saito and Hoji (1983) (see, among others, Saito 1985, 1989; Hoji 1985; Miyagawa 2001).

<sup>6</sup> Saito (2010) simply assumes that [Spec, TP] is included in the scope of negation on the basis of English data such as (i). See Nishioka (2004) for an analysis of English negative sentences based on PolP above TP.

(i) Everyone didn’t take that exam. not > every, every > not

<sup>7</sup> Wh-one-CLF such as *dare-hito-ri* (who-one person) ‘no one’, *nani-hito-tu* (what-one thing) ‘nothing’ is the same type of NPI as wh-MO, which is classified later into negative concord items (NCIs).

On the contrary, a new kind of evidence from a dialect of Japanese suggests that [Spec, TP] is not in the scope of negation. The Kumamoto dialect of Japanese (KJ), spoken in Kyushu, south-western Japan, uses two nominative case markers *ga* and *no* when only *ga* is used in standard Japanese (SJ). Nishioka (in press), extending S. Kato's (2007) generalization (4), argues that KJ uses two nominative case markers *ga* and *no* in correspondence with two distinct positions and interpretations of the subject, unlike standard Japanese (SJ), which conceals the differences under the one case marker *ga*.<sup>8</sup>

- (4) Nominative subject in KJ is expressed by the case-marker *no* if it is inside vP, and by *ga* if it is outside vP, while that in SJ is expressed by *ga* regardless of whether it is inside or outside vP. (S. Kato 2007)

Nishioka demonstrates that the *no*-marked nominative subject in KJ stays in vP and expresses nontopic, nonfocus uses of the subject inthetic or all-focus sentences as in (5), which correspond to existential and impersonal sentences of Indo-European languages (cf. Kuroda 1992; Erteschik-Shir 2007), or in sentences with scrambling, such as (6b).

- (5) a. *Tegami ga/no ki-ta.* (KJ)  
      Cf. *Tegami ga/\*no ki-ta.* (SJ)  
          letter NOM come-PST  
          'Mail has come.'
- b. *Tukue no ue ni hon ga/no ar-u (tai).* (KJ)  
      Cf. *Tukue no ue ni hon ga/\*no ar-u.* (SJ)  
          desk GEN top on book NOM be-PRS (PART)  
          'There is a book on the desk.'
- (6) a. *Taroo ga/\*no son syoosetu ba koo-ta (bai).* (KJ)  
      Cf. *Taroo ga/\*no sono syoosetu o kat-ta (yo).* (SJ)  
          Taroo NOM the novel ACC buy-PST (PART)  
          'Taroo bought the novel.'
- b. *Son syoosetu ba Taroo ga/no koo-ta (bai).* (KJ)  
      Cf. *Sono syoosetu o Taroo ga/\*no kat-ta (yo).* (SJ)  
          the novel ACC Taroo NOM buy-PST (PART)  
          'The novel, Taroo bought.'

<sup>8</sup> See Ochi and Saruwatari (in press) and Chapter 18 (Ochi, this volume) for similar behavior in Nagasaki Japanese, spoken in western Kyushu.



On the other hand, the *ga*-marked nominative subject in KJ moves to [Spec, TP] and represents topic/focus uses. This is why the nominative case marker *no* cannot be used in the focus or topic interpretations of the subject.<sup>9</sup> (7a) is an exhaustive listing sentence (S. Kuno 1973), in which the subject is focused, and the subject in (7b) represents the topic/focus of the sentence, and therefore the *no* nominative is not allowed in KJ.<sup>10</sup>

- (7) a. *Saru ga/\*no ningen no senzo (desu) tai.* (KJ)  
 Monkey NOM man GEN ancestor be.PRS PART  
 'It is the monkey that is the ancestor of man.'
- b. *Gakusei ga/\*no issyookenmei hatarai-ta (tai).* (KJ)  
 student NOM hard work-PST (PART)  
 'The students worked hard.'

In light of this analysis of KJ, the fact that the *ga*-marked nominative subject cannot be interpreted under the scope of negation in (8) indicates that [Spec, TP] is not included in the scope of negation.<sup>11</sup>

- (8) a. *Zen'in ga/\*no siken ba uke-ndat-ta.* (KJ)  
 All NOM test ACC take-NEG-PST  
 'All did not take the test.' \*NEG > all, all > NEG
- b. *Siken ba zen'in no uke-ndat-ta.* (KJ)  
 test ACC all NOM take-NEG-PST  
 'The test, all did not take.' NEG > all, \*all > NEG
- c. *Siken ba zen'in ga uke-ndat-ta.* (KJ)  
 test ACC all NOM take-NEG-PST  
 'The test, all did not take.' \*NEG > all, all > NEG

<sup>9</sup> See Nishioka (in press) for the formal mechanism to induce the movement based on Miyagawa's (2010) [topic/focus] feature inheritance analysis from C to T. See (49) in Section 4 on this point. Adopting this analysis, we can assume that TopP in the CP cartography in the analysis of Rizzi (1997) is reserved for *-wa* marked topics in Japanese. See Saito (2012) for an analysis of *-wa* phrases in [Spec, TopP] based on the CP cartography in Japanese.

<sup>10</sup> See Nishioka (in press) for a topic test that identifies the topic of a sentence.

<sup>11</sup> In subordinate clauses, the scope of negation may extend to include [Spec, TP], unlike main clauses (cf. Y. Kato 2000). This is confirmed by the KJ data in (i), where *ga*-marked subject can be interpreted under the scope of negation.

- (i) a. *Zen'in ga son tesuto ba uke-ndat-ta ken mata sore ba suru.* (KJ)  
 all NOM that test ACC take-NEG-PST because again it ACC do  
 'Because all didn't take that test, (we will) do it again.' NEG > all, all > NEG
- b. *Zen'in ga siken ba uke-n nara koma-ru.* (KJ)  
 all NOM exam ACC take-NEG if be embarrassed  
 'If all don't take the exam, I will be embarrassed.' NEG > all, all > NEG

Therefore, it can be assumed that the scope of negation is the c-command domain of Neg and it does not extend to include [Spec, TP] in Japanese main clauses. Keeping this in mind, let us move to the discussion of the properties of NPIs as well as their licensing mechanism.

### 3 The behavior of negativity sensitive items (NSIs) and their licensing mechanism

Now, the term “negativity sensitive items (NSIs)” is introduced as a cover term for lexical items that require sentential negation; these include negative concord items (NCIs) and negative polarity items (NPIs). Thus from here on, the term “NPI” will be used only to refer to the latter, differentiated from the former. I discuss the distribution and the licensing mechanism of three kinds of NSIs, *wh*-MO such as *daRE-MO* ‘who-MO’, *naNI-MO* ‘what-MO’, exceptive *XP-sika* ‘only XP’, and *rokuna* N ‘not decent/bad N’. Specifically, I take up the locality between the NSIs and Neg expressed by a clause-mate condition, the subject-object (a)symmetry, fragment answers, and multiple occurrences.

#### 3.1 Clause-mate condition

The three kinds of NSIs require a clause-mate Neg, as seen in the sentences in (9); they are schematically represented in (10).

- (9) a. *Mary ga [John ga naNI-MO/ringo-sika/rokuna mono o*  
 Mary NOM John NOM what-MO/apple-sika/good thing ACC  
*tabe-nakat-ta to] it-ta.*  
 eat-NEG-PST that say-PST  
 ‘Mary said that John didn’t eat anything/anything but an apple/a good thing.’
- b. *Taroo ga daRE-NI-MO/Mary-ni-sika/rokuna yatu ni*  
 Taroo NOM who-DAT-MO/Mary-DAT-sika/good chap DAT  
*[John ga ringo o tabe-ta to] iw-anakat-ta.*  
 John NOM apple ACC eat-PST that say-NEG-PST  
 ‘Taroo didn’t say to anyone/anyone but Mary/a good chap that John ate an apple.’
- c. \**Mary ga [John ga naNI-MO/ringo-sika/rokuna mono o*  
 Mary NOM John NOM what-MO/apple-sika/good thing ACC  
*tabe-ta to] iw-anakat-ta.*  
 eat-PST that say-NEG-PST  
 ‘Mary didn’t say that John ate nothing/only an apple/a good thing.’

- d. \**Taroo ga daRE-NI-MO/Mary-ni-sika/rokuna yatu ni*  
     Taroo NOM who-DAT-MO/Mary-DAT-sika/good chap DAT  
     [*John ga ringo o tabe-nakat-ta to*] *it-ta.*  
     John NOM apple ACC eat-NEG-PST that say-PST  
     ‘Taroo said to no one/only Mary/a good chap that John didn’t eat an apple.’

- (10) a. [TP ... [TP ... wh-MO/XP-sika/rokuna N ... Neg...] ...]  
       b. [TP ... wh-MO/XP-sika/rokuna N ... [CP ...] ... Neg...]  
       c. \*[TP ... [CP ... wh-MO/XP-sika/rokuna N ...] ... Neg...]  
       d. \*[TP ... wh-MO/XP-sika/rokuna N ... [CP ... Neg...] ...]

The c-command condition in (11) has been widely assumed as the licensing condition for NPIs since Klima (1964).

- (11) NPIs are licensed by being c-commanded by an overt negative element (at S/LF-structure). (Cf. Ladusaw 1979; Laka 1990).

Note that this condition is not sufficient to exclude the ungrammatical (9c). This sentence has the structure in (10c), where the NSI is c-commanded by the overt Neg head, satisfying (11), but is still ungrammatical. This is in sharp contrast to English NPIs such as *any*.

- (12) Mary didn’t say that John ate anything.

In order to accommodate this fact, a clause-mate condition that requires that NSIs occur in the same clause with Neg was simply stipulated in the early analyses of Japanese negative sentences (among others, see Oyakawa 1975; McGloin 1976; Muraki 1978; Y. Kato 1985), in which the NSIs in question were regarded as NPIs. However, recent analyses of NSIs attempt to derive the clause-mate condition from the licensing mechanism of NSIs, as will be outlined below.

### 3.1.1 Movement for Feature-checking analyses

Some analyses have been proposed to explain the behavior of wh-MO and XP-sika based on their overt or covert movement to [Spec, NegP] (Takahashi 1990; Kawashima and Kitahara 1992; Aoyagi and Ishii 1994; Nishioka 1994, 1999, 2000; Sohn 1996; Yoshimoto 1998; among many others). In order to account for the clause-mate condition, they resort to independent principles of movement and chains such as the proper binding condition of Fiengo (1977), the locality condition on binding, and the illegitimacy of formed chains. Among them, the overt movement analysis by Sohn

(1996) and Yoshimoto (1998) most straightforwardly accounts for the clause-mate condition (see Nishioka 2000), as outlined below.

Assuming a strong feature to trigger overt movement on NSIs (Sohn 1996) or on Neg (Yoshimoto 1998), the overt movement analysis requires that NSIs overtly move to [Spec, NegP] for feature-checking with Neg. Thus for (9a, b), the overt structures in (13a, b) show that the strong feature is successfully checked and eliminated. But for (9c, d), their overt structures in (13c, d) indicate that the strong feature remains, leading to ungrammaticality.

- (13) a. [TP... [TP... [NegP NSI ... Neg] ...] ...]  
 b. [TP... [NegP NSI ... [CP...]] ... Neg] ...]  
 c. \*[TP... [CP... NSI ...] ... Neg...]  
 d. \*[TP... NSI ... [CP... Neg...] ...]

The overt movement analysis would also explain the apparent counter-examples to the clause-mate condition.

- (14) a. *Ken wa naNI-MO/ringo-sika tabe-tai to iw-anakat-ta.*  
 Ken TOP what-MO/apple-sika eat-want that say-NEG-PST  
 'Ken didn't say that he wanted to eat anything/anything but an apple.'  
 b.  $\text{Ken}_i\text{-wa } [_{CP} [_{TP} \text{pro}_i [\text{PRO}_i \text{ naNI-MO/ringo-sika tabe}]\text{-tai}] \text{ to}] \text{ iw-anakat-ta}$   
 c.  $\text{Ken}_i\text{-wa } [_{\text{NegP}} \text{ naNI-MO}_j/\text{ringo-sika}_j [_{CP} [_{TP} \text{pro}_i [\text{PRO}_i e_j \text{ tabe}]\text{-tai}] \text{ to}]] \text{ iw-anakat}]\text{-ta}$

If the overt structure of (14a) were (14b), the clause-mate condition would be violated because the NSIs and Neg are not in the same clause, hence the strong feature would fail to be checked off. However, since the subjects of the embedded clauses are non-overt (pro, PRO), a structure like (14c), in which the NSIs overtly reside in [Spec, NegP] and feature-checking is successfully fulfilled, can be assumed.<sup>12</sup> This is why (14a) is grammatical. This observation is supported by the ungrammaticality of (15), where the existence of the overt subject in the embedded clause excludes the possibility of the overt movement of the NSIs to [Spec, NegP].

- (15) \* $\text{Ken}_i \text{ wa } [_{CP} [_{TP} \text{zibun}_i \text{ ga } [_{\text{PRO}_i} \text{ doKOE-MO/Boston-ni-sika ik}]\text{-itai}] \text{ to}]]$   
 Ken TOP self NOM where-MO/Boston-to-sika go-want that  
*iw-anakat]-ta.*  
 say-NEG-PST  
 'Ken did not say that he (=self) wanted to go anywhere.'

<sup>12</sup> Empty category ( $e_j$ ) in (14c) represents the copy/trace or pro. Its identity is tangential to the present discussion.

### 3.1.2 Agree-based analyses

Chomsky (2000, 2001) proposes a feature-checking mechanism based on Agree, in which an element with an uninterpretable feature (“probe”) seeks an element with a matching feature (“goal”) in the sister constituents of H under the locality of c-command, and uninterpretable features are deleted for the derivation to converge. There are analyses that adopt and extend this Agree-based approach to NSIs (Watanabe 2004; M. Kuno 2007; Miyagawa, Nishioka and Zeijlstra 2013). If NSIs are licensed by Neg in terms of Agree, the clause-mate condition observed between NSIs and Neg would follow from a condition on the implementation of Agree, such as the Phase-Impenetrability Condition proposed by Chomsky (2000, 2001) (Yamashita 2003). Different explanations have been proposed to account for the behavior of NSIs based on different versions of Agree, which will be observed in 3.3.

## 3.2 Subject-object (a)symmetry

The three kinds of NSIs exhibit different grammaticality on the subject-object (a)symmetry.

- (16) a. *daRE-MO sono koto o iw-anakat-ta.*  
           who-MO the fact ACC say-NEG-PST  
           ‘No one said it.’  
       b. *John ga naNI-MO iw-anakat-ta.*  
           John NOM what-MO say-NEG-PST  
           ‘John said nothing.’
- (17) a. *John-sika sono koto o iw-anakat-ta.*  
           John-sika the fact ACC say-NEG-PST  
           ‘Only John said it.’  
       b. *John ga sono koto-sika iw-anakat-ta.*  
           John NOM the fact-sika say-NEG-PST  
           ‘John said only that.’
- (18) a. *??Rokuna yatu ga sono koto o iw-anakat-ta.*  
           good chap NOM the fact ACC say-NEG-PST  
           ‘Good chaps didn’t say it.’  
       b. *John ga rokuna koto o iw-anakat-ta.*  
           John NOM good book ACC buy-NEG-PST  
           ‘John didn’t say anything good.’

Unlike wh-MO and XP-*sika*, the occurrence of *rokuna* N as the subject in the transitive construction is degraded in (18a), which suggests that *rokuna* N is a type of NPI and the other two are not. If [Spec, TP] is outside the scope of negation, as we have observed in Section 2, and the subject in the transitive construction moves to [Spec, TP] when there are no other elements to occupy the position, the ungrammaticality of (18a) conforms to (11).

Therefore, *rokuna* N can be regarded as a case of an NPI that requires being c-commanded by Neg, but as pointed out in 3.1, the locality observed between *rokuna* N and Neg still remains to be explicated. See Section 4 on this point. Given the difference between wh-MO/XP *sika* in (16)/(17) and *rokuna* N in (18), neither movement to [Spec, NegP] nor Agree for feature-checking mentioned in 3.1.1 and 3.1.2 can be available for *rokuna* N if it is the licensing mechanism for wh-MO/XP *sika*. Note, especially, that [Spec, NegP] is not in the c-command domain of Neg.

### 3.3 Fragment answers

The three kinds of NSIs behave differently with respect to fragment answers.

- (19) Q: *Nani o kat-ta no?*  
           what ACC buy-PST Q  
           ‘What did you buy?’

A: *naNI-MO/\*CD-sika/\*Rokuna hon (o).*  
     what-MO/CD-sika/good book  
     ‘Nothing/Only CD/Not a good book.’

As pointed out by Nishioka (1999, 2000) and Watanabe (2004), wh-MO phrases can occur as a fragment answer. Although negation is not an overt part of the fragment answer, it is implied, which suggests that the wh-MO is an NCI.<sup>13</sup> By contrast, XP-*sika* and *rokuna* N may not constitute a negative fragment answer. However, see Section 4 for a different observation on XP-*sika*.

Since Watanabe’s (2004) detailed syntactic analysis of wh-MO, this topic has attracted many researchers’ attention, and various analyses have been proposed based on different ideas of Agree. I will review three of them including Watanabe (2004).

<sup>13</sup> See Zanutinni (1991), Vallduví (1994), Haegeman (1995), and Giannakidou (2000) for diagnostic tests to distinguish between NCIs and NPIs, which include the use of fragment answers.

### 3.3.1 Feature-copying

Watanabe (2004) develops an analysis of wh-MO as an NCI. Arguing that wh-MO contains negative meaning, Watanabe proposes a way to produce single negation in spite of multiple occurrences of negative expressions: wh-MO and the negative predicate *na*. In essence, he proposes a mechanism in lieu of Neg-Factorization ( $([\forall x \neg] [\neg] = [\forall x \neg])$ ) by Haegeman and Zanuttini (1996), which is an operation that converts multiple occurrences of negation into one. Watanabe reintroduces the feature-copying mechanism suggested by Chomsky (1995, 1998) but abandoned by Chomsky (2000, 2001), according to which the goal is copied on the probe, as illustrated in (20b, c) for (20a). Watanabe assumes an Agree system in which (i) both wh-MO and the Neg head *na* have an interpretable neg feature ([iNEG]);<sup>14</sup> (ii) probes do not have to carry an uninterpretable feature, i.e., as long as the probe and the goal have matching features and the goal is active (by having an uninterpretable focus feature ([ufoc]), Agree can be established. Thus in (20b) [iNEG] of the Neg head functions as a probe to perform Agree with the goal *naNI-MO*, which has both [iNEG] and [ufoc], and as a result [ufoc] is deleted and [iNEG] of *naNI-MO* is copied on Neg as illustrated in (20c). Due to the copying procedure, Neg contains two occurrences of [iNEG], which cancel each other out (i.e. the negation of negation is affirmation). The only remaining [iNEG] of *naNI-MO* produces the meaning of single negation.

- (20) a. *John wa naNI-MO tabe-nakat-ta.*  
           John TOP what-MO eat-NEG-PST  
           ‘John didn’t eat anything.’
- b. ...<sub>[NegP [VP naNI-MO<sub>[iNEG][ufoc]...</sub>] Neg<sub>[iNEG]</sub>]]...</sub>
- └──────────┘ Agree
- c. ...<sub>[NegP [VP naNI-MO<sub>[iNEG][ufoc]...</sub>] Neg<sub>[iNEG] [iNEG]</sub>]]...</sub>
- └──────────┘  
           copying
- └──┘  
                   cancellation of [iNEG]

Watanabe argues that this Agree system is necessary to explain the fragment answer involving wh-MO.

- (21) a. Q: *Nani o mi-ta no?*  
           what ACC see-PST Q  
           ‘What did you see?’
- A: *naNI-MO*  
           what-MO  
           ‘Nothing.’

<sup>14</sup> Notations are adapted from the original to be consistent with the arguments through the chapter.

- b. *naNI-MO* [*mi-nakat-ta*].  
 what-MO see-NEG-PST  
 'I saw nothing.'

If semantic identity is required for ellipsis as argued by Merchant (2001), Watanabe argues, the elided part in (21b) should be affirmative, because the antecedent in (21a) is affirmative. Watanabe's copying system makes the elided part affirmative by the cancelation of two occurrences of [iNEG].

However, this argument for semantic identity is not without controversy. Following Karttunen's (1977) semantics, according to which questions denote the set of their true answers, Giannakidou (2006) argues that the antecedent of the elided part of fragment answers is obtained by choosing a proposition from the denoted answer set. Thus, for example, given the domain of quantification: {*yuurei* 'ghost', *hebi* 'snake'}, the answer set denoted by the question in (21a) will be as follows.

- (22) a. (*Boku wa*) *yuurei o mi-ta*.  
 I TOP ghost ACC see-PST  
 'I saw a ghost.'
- b. (*Boku wa*) *hebi o mi-ta*.  
 I TOP snake ACC see-PST  
 'I saw a snake.'
- c. (*Boku wa*) *naNI-MO mi-nakat-ta*.  
 I TOP what-MO see-NEG-PST  
 'I saw nothing.'

If this is true and (22c) is chosen from the answer set, the fragment answer (21b) can be explained without the copying mechanism Watanabe assumes.<sup>15</sup>

Moreover, as pointed out by M. Kuno (2007: 66), Watanabe's (2004) feature-copying analysis faces difficulty in accommodating the ellipsis in (23B).

- (23) A: *John wa naNI-MO tabe-tagara-nai sooda*.  
 John TOP what-MO eat-want-NEG I.hear  
 'I heard that John does not want to eat anything.'
- B: *Tokuni nani o<sub>i</sub> ka wakari-masu-ka?*  
 especially what ACC Q know-POL-Q  
 'Do you know in particular what he does not want to eat?'

<sup>15</sup> Watanabe (2004) argues against Giannakidou's (2006) proposal. M. Kuno (2007) argues that fragment answers do not provide us with compelling evidence to favor one or the other.



- (24) a. John wa [naNI-MO<sub>i</sub> [<sub>XP</sub> t<sub>i</sub> tabe-tagara-nai]] sooda.  
 b. [<sub>CP</sub> Tokuni nani o<sub>i</sub> [<sub>XP</sub> (~~kare-ga~~) t<sub>i</sub> ~~tabe-tagara-nai~~] ka] wakari-masu-ka?

We can assume the structures in (24a, b) for (23A, B), respectively, as M. Kuno does. Thus the fact that the ellipsis of XP indicated by the strikeout in (24b) is allowed means that the semantic identity of XP between (24a) and (24b) is guaranteed. However, in Watanabe's analysis, XP in (24a) should be semantically affirmative as a result of copying and cancelling of two occurrences of [iNEG] in Neg, as in (20c), whereas XP in (24b) is negative. The well-formed ellipsis in (23B) suggests that negative meaning resides in Neg even in the sentences involving wh-MO, as opposed to what Watanabe claims.<sup>16</sup>

Watanabe focuses on occurrences of wh-MO with the negative head (*na*), a case of “negative doubling”. He suggests that multiple occurrences of wh-MO, a case of “negative spread”, should be treated differently from negative doubling, assuming that Neg-Factorization, which must be part of the semantic interpretation outside the syntactic computation, is still necessary for negative spread. In relation to fragment answers, however, as pointed out by Miyagawa, Nishioka and Zeijlstra (2013), his analysis cannot deal with (25B) without requiring some syntactic mechanism.

- (25) A: *Dare-ka nani-ka tabe-ta no?*  
 who-ka what-ka eat-PST Q  
 ‘Did anyone eat anything?’  
 B: *daRE-MO naNI-MO.*  
 who-MO what-MO  
 ‘Nobody, nothing.’

According to Watanabe's Agree system, unless some syntactic mechanism in relation to multiple Agree to the effect that only one [iNEG] is copied on Neg is postulated, the elided part of (25B) should contain three occurrences of [iNEG] as a result of copying of two occurrences in syntax, which should be negative because one [iNEG] still remains in Neg even after the cancellation of two occurrences of [iNEG], as indicated in (26). It is unclear how the semantic process of Neg-factorization can produce an affirmative out of three occurrences of [iNEG].

- (26) [<sub>NegP</sub> [daRE-MO<sub>[iNEG][ufœe]</sub> naNI-MO<sub>[iNEG][ufœe]</sub> tabe]-nakat<sub>[iNEG]</sub> {[iNEG][iNEG]}] -ta
- 

<sup>16</sup> Watanabe (2010) suggests a possibility of non-constituent deletion, which requires syntactic identity but not semantic identity, for (23B).

### 3.3.2 Feature-sharing

M. Kuno (2007) provides an analysis of *wh*-MO and *XP-sika* in terms of their morpho-syntactic ingredients. He identifies *wh*-MO (a member of strong NCIs in his classification) as consisting of an indefinite (*wh*), a focus element (*mo*) and a phonologically null negative element ( $\phi$ ), based on the equivalent NCIs in Serbo-Croatian, Russian, and Hungarian, in which they are represented by overt morphemes. Extending Lahiri's (1998) semantic analysis of NPIs in Hindi, he assumes that such NCIs cause a semantic problem because of the existence of negative force inside NCIs. In order to get rid of the negative force and get an appropriate interpretation, he resorts to an Agree operation with sentential negation. The Agree operation that M. Kuno entertains is different from the standard one in that (i) it applies between interpretable features ([iNEG]) without uninterpretable features (i.e. no activation condition assumed by Chomsky 2000, 2001 and Watanabe 2004), (ii) a feature that undergoes Agree is shared and interpreted somewhere on the elements that share it. As a result, [iNEG] disappears from NCIs and an appropriate interpretation is successfully produced. The feature-sharing Agree that works on *wh*-MO is illustrated in (27), where the interpreted feature as a result of this feature-sharing Agree is boldfaced. The obtained interpretation is the same as that of NPIs proposed by Lahiri (1998).

- (27)  $[_{NCI} \text{Indefinite+Foc}+\phi_{[iNEG]}] \dots \text{Neg}_{[iNEG]} \Rightarrow [_{NCI} \text{Indefinite+Foc}] \dots \text{Neg}_{[iNEG]}$   
└──────────┘  
Agree as feature-sharing

Under this analysis, negative force is finally located not in *wh*-MO but in Neg, which is consistent with the ellipsis observed in (23), (24) (repeated as (28), (29)). The fact that the ellipsis in (28B), which is represented as the strike-out XP in (29b), is interpreted as containing negation indicates that Neg (*na*) in XP must also retain negative meaning in (29a), which corresponds to (28A).

- (28) A: *John wa naNI-MO tabe-tagara-nai sooda.*  
 John TOP what-MO eat-want-NEG I.hear  
 'I heard that John does not want to eat anything.'
- B: *Tokuni nani o<sub>i</sub> ka wakari-masu-ka?*  
 especially what ACC Q know-POL-Q  
 'Do you know especially what he does not want to eat?'
- (29) a. John wa [naNI-MO<sub>i</sub> [<sub>XP</sub> t<sub>i</sub> tabe-tagara-nai]] sooda.  
 b. [<sub>CP</sub> Tokuni nani o<sub>i</sub> [<sub>XP</sub> ~~(kare-ga) t<sub>i</sub> tabe-tagara-nai~~] ka] wakari-masu-ka?

M. Kuno treats XP-*sika* differently from wh-MO. However, the gist of the argument is the same; in order to get the right interpretation of XP-*sika*, feature-sharing Agree must apply between XP-*sika* and Neg. The difference from the case of wh-MO is where [iNEG] is interpreted. Based on the semantics of XP-*sika*, he argues that two [iNEG] features must be interpreted at XP-*sika* and not in Neg. This is schematically represented in (30) and supported by the data in (31).

- (30) XP-*sika*<sub>[iNEG<sub>1</sub>][iNEG<sub>2</sub>]</sub> ... Neg<sub>[iNEG<sub>1</sub>]</sub>...

the left [iNEG<sub>1</sub>] and [iNEG<sub>2</sub>] get interpreted

- (31) A: *John wa kudamono-sika tabe-tagara-nai sooda.*  
 John TOP fruit-sika eat-want-NEG I hear  
 'I heard that John wants nothing except fruits.'

- B: *Tokuni nani o<sub>i</sub> ka wakari-masu-ka?*  
 especially what ACC Q know-POL-Q  
 'Do you know in particular what he does not want to eat?'

- (32) a. *John wa [kudamono-sika<sub>i</sub> [<sub>XP</sub> t<sub>i</sub> tabe-tagara-nai]] sooda.*  
 b. [<sub>CP</sub> Tokuni nani o<sub>i</sub> [<sub>XP</sub> (~~kare-ga~~) t<sub>i</sub> ~~tabe-tagatte-iru~~] ka] wakari-masu-ka?

The fact that the ellipsis in (31B), which is represented as the strike-out XP in (32b), is interpreted as affirmative, unlike the case of wh-MO in (28B) indicates that Neg (*na*) in XP does not retain negative meaning in (32a), which corresponds to (31A). This is correctly captured by (30).

However, it is not clear how the ungrammaticality of XP-*sika* in fragment answers in (33) is accounted for in this analysis because if [iNEG] is not interpreted in Neg, the elided part should be semantically equivalent to the corresponding part of the question.

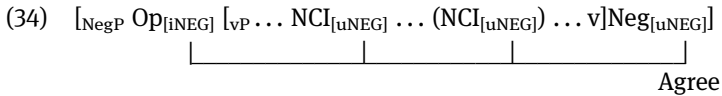
- (33) Q: *John ga nani o kat-ta no?*  
 John NOM what ACC buy-PST Q  
 'What did John buy?'

- A: *\*CD-sika [kaw-anakat-ta].*  
 CD-sika buy-Neg-PST  
 'Only CD.'

Moreover, as M. Kuno himself admits, the arbitrariness or nondeterministic property of Agree as a feature-sharing operation must be gotten rid of if Agree is an independent syntactic operation. M. Kuno suggests the possibility that it can be reinterpreted based on feature valuation, but he leaves this for further study.

### 3.3.3 Upward Agree

Following Zeijlstra (2004, 2008), Miyagawa, Nishioka and Zeijlstra (2013) propose that another type of Agree, which can be called “upward Agree”, should be adopted for the analysis of *wh*-MO. In their analysis both the sentential negative head *Neg* (*na*) and NCIs are taken to bear an uninterpretable negative feature ([uNEG]), while a covert negative operator with an interpretable negative feature ([iNEG]) is postulated in [Spec, NegP]. This is schematically illustrated in (34).



The direction of this Agree is the opposite of the standard Agree (Chomsky 2000, 2001) in that (multiple) probes (elements with [uNEG]) are c-commanded by a goal (Op), that is, Agree applies upward. The advantage of this analysis is that single negation meaning is straightforwardly accommodated without assuming Neg-Factorization, because the sentence contains only one [iNEG]. The locality between NCIs and *Neg na* (i.e. the clause-mate condition) is actually the locality of the application of Agree between NCIs and Op, but because *Neg* is necessary to identify Op in its Spec and is licensed by it, the locality indirectly holds between NCIs and the *Neg* head.

Miyagawa, Nishioka, and Zeijlstra (2013) argue that *XP-sika* and *rokuna* N are not NCIs but NPIs, assuming that neither bears [uNEG] but must be c-commanded by Op<sub>[iNEG]</sub>.

As for fragment answers in (35a) (=21a), they assume the structure in (35b). According to their analysis, the fragment contains the operator which carries the [iNEG] feature and the elided part is semantically equivalent to what is overtly represented in the question because *Neg* in XP does not have negative force (i.e. [iNEG]). In contrast, as mentioned above, *XP-sika* and *rokuna* N are NPIs, which do not bear [uNEG] and cannot invoke Op with [iNEG]. This is why *XP-sika* and *rokuna* N cannot constitute fragment answers in (36a).

- (35) a. Q: *Nani o mi-ta no?*  
           what ACC see-PST Q  
           ‘What did you see?’

A: *naNI-MO*  
       what-MO  
       ‘Nothing.’

- b. [Op<sub>[iNEG]</sub> *naNI-MO*<sub>[uNEG]</sub> [*XP-mi-nakat*<sub>[uNEG]</sub> *-ta*]]

- (36) a. Q: *Nani o kat-ta no?*  
 what ACC buy-PST Q  
 ‘What did you buy?’

A: \**CD-sika/\*Rokuna hon (o).*  
 CD-sika/good book (ACC)  
 ‘Only a CD/Not a good book.’

- b. [Op<sub>[iNEG]</sub> CD-sika/Rokuna hon (o) [<sub>XP</sub> ~~kaw-anakat~~<sub>[iNEG]</sub>-ta]]

However, although they do not indicate what XP is in (35b), if it is TP, as usually assumed (Merchant 2004), it is not clear how Op in [Spec, NegP] moves over TP in their analysis, and some mechanism for this must be devised. Moreover, although as just observed they argue that NPIs in (36a) cannot invoke Op due to the lack of [uNEG], it is not clear why Neg cannot invoke Op, resulting in the structure in (36b). As long as they stand on a PF deletion approach, it should be possible. Miyagawa, Nishioka and Zeijlstra (2016) present a new analysis, overcoming these problems, which will be mentioned in section 4.

### 3.4 Multiple occurrences

Another difference observed among the three kinds of NSIs concerns multiple occurrences. (Aoyagi and Ishii 1994; Nishioka 2000; Miyagawa, Nishioka and Zeijlstra 2013, 2016)

- (37) a. *daRE-MO naNI-MO kaw-anakat-ta.*  
 who-MO what-MO buy-NEG-PST  
 ‘No one bought anything.’
- b. \**John-sika eigo-sika hanas-anakat-ta.*  
 John-sika English-sika speak-NEG-PST  
 ‘No one but John spoke anything but English.’
- c. *Ken wa rokuna mono o rokuna basyo de tabe-nakat-ta.*  
 Ken TOP good thing ACC good place LOC say-NEG-PST  
 ‘Ken didn’t eat any decent food at any decent places.’

As observed in (37b), XP-*sika* cannot be used multiply in a clause, which makes a sharp contrast with the cases of wh-MO and *rokuna* N in (37a, c).

Aoyagi and Ishii (1994) stipulate that XP-*sika* resides in [Spec, NegP] and wh-MO adjoins to Op in [Spec, NegP] at LF and from the one-to-one requirement of the spec-head relation they derive the difference between (37a) and (37b).<sup>17</sup> Miyagawa, Nishioka and Zeijlstra (2013) propose an account for (37a) in terms of upward Agree

<sup>17</sup> Nishioka (2000) also stipulates that Foc can check only one [+FOC] of the same kind of focus phrases and XP-*sika*, which has [+FOC], cannot occur multiply.

in (34), where multiple occurrences of wh-MO are captured as the application of multiple Agree. They assume that both XP-*sika* and *rokuna* N are NPIs but what differentiates them is that the former involves obligatory focus, while the latter does not. They attribute the ungrammaticality of (37b) to the intervention of one XP-*sika* with the licensing of another, as elements carrying a semantically active focus feature act as intervenors for semantic licensing (Beck 2006; Miyagawa 2010). However, see Section 4 for examples where multiple occurrences of XP-*sika* are possible.

## 4 A new perspective and remaining problems

As we have reviewed in 3.2, 3.3 and 3.4, the distinct distributions of wh-MO, XP-*sika*, and *rokuna* N suggest that they belong to different classes and should be treated differently. This is in contrast to the traditional view that they are all NPIs that are c-commanded by NEG. But is it true that they really belong to different classes? The fact of the subject-object (a)symmetry in section 3.2 indicates that *rokuna* N is an NPI but the other two are not. What about other data concerning fragment answers and multiple occurrences in 3.3 and 3.4? Recall (19) and (37), which are repeated as (38) and (39), respectively.

- (38) Q: *Nani o kat-ta no?*  
 what ACC buy-PST Q  
 ‘What did you buy?’

A: *naNI-MO/\*CD-sika/\*Rokuna hon (o).*  
 what-MO/CD-sika/good book  
 ‘Nothing/Only a CD/Not a good book.’

- (39) a. *daRE-MO naNI-MO kaw-anakat-ta.*  
 who-MO what-MO buy-NEG-PST  
 ‘No one bought anything.’

b. *\*John-sika eigo-sika hanas-anakat-ta.*  
 John-sika English-sika speak-NEG-PST  
 ‘No one but John spoke anything but English.’

c. *Ken wa rokuna mono o rokuna basyo de tabe-nakat-ta.*  
 Ken TOP good thing ACC good place LOC say-NEG-PST  
 ‘Ken didn’t eat any decent food at any decent places.’

If *rokuna* N belongs to the class of NPI that must be c-commanded by Neg, as we have seen in 3.2., the (un)grammaticality of *rokuna* N in (38A) and (39c) is predicted. Since the fragment must move out of the TP that is elided (Merchant 2004), *rokuna* N

in the fragment answer in (38A) cannot be c-commanded by Neg, which is contained in the TP. This is in line with the fact that NPIs in general cannot constitute a fragment answer, as in (40).

(40) A: What did you eat?

B: \*Anything.

On the other hand, both occurrences of *rokuna* N in (39c) are licensed, being c-commanded by Neg.

Wh-MO has been generally accepted as a type of NCI, as observed in the previous section, while the differences between wh-MO and XP-*sika* in (38A) and (39a, b) seem to suggest that XP-*sika* cannot be a type of NCI. However, observe the following sentences presented by Miyagawa, Nishioka and Zeijlstra (2016).

(41) A: *Kimi, nando mo betonamu ni it-ta koto*  
 you many times also Vietnam to go-PST experience  
*aru no daroo?*  
 have COMP I.suppose  
 'Haven't you been to Vietnam many times?'

B: *Iya, itido-sika.*  
 no once-sika  
 'No, only once.' (S. Kuno 1995: 170)

(42) A: *Yoku Yamada-sensei to wa au no?*  
 often Yamada-prof. with TOP meet Q  
 'Do you often see Prof. Yamada?'

B: *Iya, gakugaide-sika/syuu ni ichido-sika.*  
 No, off campus-sika/week in once-sika  
 'No, only off campus/only once a week.'

(43) a. *?John-sika sono kuni e wa itido-sika it-ta*  
 John-sika that country to TOP one time-sika go-PST  
*koto ga na-i*  
 experience NOM NEG-PRS  
 'Only John has the experience of visiting that country just once.'

b. *Karaoke e wa itido-sika Shiori-to-sika it-ta*  
 karaoke to TOP one time-sika Shiori-with-sika go-PST  
*koto ga na-i.*  
 experience NOM NEG-PRS  
 'I have been to Karaoke only once, only with Shiori.'

Fragment answers in (41) and (42) and multiple occurrences in (43) are possible with XP-*sika*. Note that occurrences of XP-*sika* in (38A) and (39b) are arguments, while those in (41)–(43) are adjuncts, and the two should be considered distinct.

As observed by Kawashima and Kitahara (1992) and Aoyagi and Ishii (1994), case-markers *ga* ‘NOM’ and *o* ‘ACC’ for arguments cannot be attached to wh-MO and XP-*sika*.

- (44) a. *daRE-MO/John-sika (\*ga) ringo o tabe-nakat-ta.*  
           who-MO/John-sika (NOM) apple ACC eat-NEG-PST  
           ‘No one/No one but John ate an apple.’  
       b. *Taroo ga naNI-MO/ringo-sika (\*o) tabe-nakat-ta.*  
           Taroo NOM what-MO/apple-sika (ACC) eat-NEG-PST  
           ‘Taroo ate nothing/nothing but an apple.’

Moreover, wh-MO/XP-*sika* can co-occur with overt subject or object as in (45).<sup>18</sup>

- (45) a. *Gakusei ga daRE-MO/John-sika ko-nakat-ta.*  
           student NOM who-MO/ John-sika come-NEG-PST  
           ‘No student/No student but John came.’  
       b. *Taroo ga kudamono o naNI-MO/ringo-sika tabe-nakat-ta.*  
           Taroo NOM fruit ACC what-MO/apple-sika eat-NEG-PST  
           ‘Taroo didn’t eat any fruit/any fruit but apples.’

Based on the above-mentioned properties, Aoyagi and Ishii (1994), following Fujita (1993), assume that both wh-MO and XP-*sika* are a class of floating quantifiers (FQs) like 3-*bon* ‘3-classifier’ in (46).

- (46) a. *John ga 3-bon banana o tabe-ta.*  
           John NOM 3-CLF banana ACC eat-PST  
           ‘John ate 3 bananas.’  
       b. *John ga banana o 3-bon tabe-ta.*  
           John NOM banana ACC 3-CLF eat-PST  
           ‘John ate 3 bananas.’ (Aoyagi and Ishii 1994: 298)

However, wh-MO and argument XP-*sika* should still be distinguished. Konomi (2000) argues that XP-*sika* differs from wh-MO in argument/adjunct status, and XP-*sika* cannot be a type of FQ, unlike wh-MO, presenting several pieces of evidence for

<sup>18</sup> Thus wh-MO/XP-*sika* without an overt argument is best analyzed as involving *pro* (Kawashima and Kitahara 1992).



this. One of them is the difference resulting from modification by relative clauses, which indicates that XP-*sika* can be an argument while wh-MO may not.

- (47) a. [[*Gengogaku 112 no siken o pasusi-ta*] *hito*]-*sika kono*  
 Linguistics 112 GEN exam ACC pass-PST person-sika this  
*koogi o totte wa ike-na-i.*  
 class ACC take TOP may-NEG-PRS  
 ‘Only students that passed the exam in Linguistics 112 may take this class.’
- b. \*[[*Gengogaku 112 no siken o pasusi-ta*] *daRE-MO*] *ko-nakat-ta.*  
 Linguistics 112 GEN exam ACC pass-PST who-MO come-NEG-PST  
 ‘Nobody who passed the exam in Linguistics 112 came.’
- c. \**John ga hon o [[Harvard Book Store de kat-ta]*  
 John NOM book ACC Harvard Book Store at buy-PST  
*2,3-satu] motteki-ta.*  
 2,3-CLF bring-PST  
 ‘John brought a couple of books which he bought at Harvard Book Store.’  
 (Konomi 2000: 62)

While argument XP-*sika* can be the head noun of a relative clause in (47a), wh-MO cannot in (47b), which shows the similarity of wh-MO to FQs in (47c) and suggests its adjunct status. See Konomi (2000) and Miyagawa, Nishioka and Zeijlstra (2016) for more arguments for the differences between wh-MO and argument XP-*sika*.

If we recognize the distinction between argument XP-*sika* and adjunct XP-*sika*/wh-MO, a new classification of the three kinds of NSIs will emerge, as Miyagawa, Nishioka and Zeijlstra (2016) observe.

- (48) NCI  
 a. Adjunct NCI: (i) wh-MO (ii) adjunct XP-*sika*  
 b. Argument NCI: argument XP-*sika*  
 NPI: *rokuna* N

Based on this view of NSI classification, Miyagawa, Nishioka and Zeijlstra (2016) develop an analysis to explicate their distribution, in which the interaction between Case and focus plays a crucial role. Miyagawa (2010) proposes that Japanese as a discourse-configurational language incorporates [topic/focus] based Agree, in which a [topic/focus] feature is inherited from C to T and triggers the movement of an element with the matching feature to [Spec, TP] in an application of Agree as in (49).

- (49)  $[_{TP} XP_{[topic/focus]} \dots [_{VP} \dots (XP_{[topic/focus]}) \dots] T] C_{[topic/focus]}$
- $\uparrow$  movement  $\uparrow$  inheritance

Miyagawa, Nishioka and Zeijlstra (2016) argue that obligatory movement of argument XP-*sika* to [Spec, TP] is activated by the Case feature. Exploiting Case, the argument/adjunct asymmetries of NCIs are naturally explained. Argument XP-*sika*, whose Case activates Agree with T, should move to [Spec, TP] and stay there (cf. Rizzi's 2006 Criterion Freezing). Thus it cannot survive in the TP deletion for the fragment answer in (38A), while adjunct NCIs are free from this constraint. As for the multiple occurrence restriction in (39b), one argument XP-*sika* causes an intervention effect on the movement of another to [Spec, TP], resulting in the failure of feature-checking.

If their analysis is on the right track, it would open a new perspective for the unified analysis of NCIs as well as for Case theory in Japanese. As in the  $\phi$ -feature agreement of Chomsky (2000, 2001), Case makes [topic/focus] agreement of arguments activate in the TP domain. By pursuing this idea further, more intriguing questions will emerge, including: Is [topic/focus] agreement possible without involving Case? How is Case checked/assigned if [topic/focus] agreement is not involved? Is morphological case marking based on the abstract Case checking? On the last question Kuroda (1988) argues that morphological case marking should be based on a mechanism distinct from abstract Case assignment. This seems to suggest that the fact that XP-*sika* NCIs never realize nominative/accusative case-markers even if they are arguments can be explicated in terms of Abstract Case assignment, although in-depth analysis awaits further investigation.

Miyagawa's (2010) Agree system is based on Agree, as proposed by Chomsky (2007, 2008). However, as reviewed in 3.3., different versions of Agree have been proposed for NCI wh-MO: Watanabe's (2004) Agree with feature-copying, M. Kuno's (2007) Agree with feature-sharing, and Miyagawa, Nishioka and Zeijlstra's (2013) (originally Zeijlstra's 2004, 2008) upward Agree. They differ in where an interpretable negative feature ([iNEG]) resides after the application of Agree.

- (50) a.  $[Wh-MO_{[iNEG]} \dots Neg_{[iNEG][iNEG]}]$  (Agree with feature-copying)  
 b.  $[Wh-MO_{[iNEG]} \dots Neg_{[iNEG]}]$  (Agree with feature-sharing)  
 c.  $[Op_{[iNEG]} \dots Wh-MO_{[iNEG]} \dots Neg_{[iNEG]}]$  (upward Agree)

In order to explain fragment data, they must depend on different assumptions of the semantic identity between elided and antecedent parts, as we reviewed in 3.3. In other words, the success of the analysis of NCIs affects the analyses for ellipsis in general, explicating possible procedures of Agree.

A final note on *rokuna* N should be in order. I have observed that *rokuna* N is an NPI, but the distribution is different from English *any* in that the former is possible only with the clause-mate negation, while the latter occurs in wider contexts including questions and conditionals.

(51) a. Did anyone come?

b. If anyone comes, let me know.

(52) a. \**Rokuna yatu ga ki-ta no?*

rokuna chap NOM come-PST Q

‘Did a good chap come?’

b. \**Rokuna yatu ga ki-ta ra, watasi ni si-rase-te.*

rokuna chap NOM come-PST if, me DAT know-let-IMP

‘If a good chap comes, let me know.’

Van der Wouden (1997) proposes that NPIs are classified depending on the hierarchy of the negative contexts (licensors) that are defined in terms of Boolean functions. According to the classification, *rokuna* N belongs to the strongest class, for which antimorphic negation is required, while *any* belongs to the weakest class, for which monotone decreasing elements can play the role of the licenser.<sup>19,20</sup>

I have focused on three kinds of NSIs in this chapter: Wh-MO, XP-*sika*, and *rokuna* N. Among other NSIs, (N case) one-CLF-MO such as (*gakusei ga*) *hitori-MO* ‘even one student’, (*hon o*) *issatu-MO* ‘even one book’ is categorized with wh-MO, while N one-CLF such as *gakusei hitori* ‘one student’, *hon issatu* ‘one book’ is categorized with *rokuna* N (Kataoka 2010). Interestingly, the form one-CLF-*demo* such as *it-teki-demo*, ‘even a drop’, *hito-ri-demo* ‘even one person’ is another type of NSI, which can occur in wider contexts than NCIs such as in questions, conditionals, and super-ordinate negation like (weak) NPIs, but cannot occur with the clause-mate negation like positive polarity items (PPIs).<sup>21</sup> This is why they are called bipolar items (Yoshimura 1999; Watanabe 2010). Namely, Japanese has a variety of expressions that are morphologically similar but behave differently with respect to polarity. More systematic research, covering a wider range of NSIs in light of morphological components with a viewpoint based on cross-linguistic facts and (the theory of) UG is left to further study.

<sup>19</sup> See van der Wouden (1997) for the definitions of the negative contexts and the kinds of NPIs, and see also Yoshimura (1999) for examination of English and Japanese NPIs in light of the definitions.

<sup>20</sup> NP + *hodo* ‘as’ (McGloin 1976), *sonnakoto* ‘such thing’ (Y. Kato 2000), *koreizyoo* ‘more than this’ (Kishimoto 2008: 426), are reported in the literature as *any*-type NPIs in Japanese.

<sup>21</sup> To be exact, PPIs can occur with the clause-mate negation but cannot be interpreted in the scope of negation.

## 5 Concluding remarks

I have discussed the scope of sentential negation and the behavior of three kinds of NSIs in Japanese. First in section 2, I observed that the clause structure of negative sentences contains NegP and the scope of negation is defined as the c-command domain of Neg, which excludes [Spec, TP] in main clauses. This is supported by the data from Kumamoto dialect.

Following the discussion of the scope of negation, I examined three kinds of NSIs, focusing on their distribution in section 3. They all require clause-mate negation but exhibit different behavior with respect to (i) subject-object (a)symmetry, (ii) fragment answers, and (iii) multiple occurrences. In examining their distribution, I reviewed the overt movement analysis to [Spec, NegP] and different kinds of Agree based analyses. Although the locality requirement of wh-MO and XP-*sika* can be reduced to the locality restriction on the implementation of feature checking, whether in terms of movement or Agree, different behavior of the three with respect to (i)–(iii) indicates the necessity of different treatment of them. Specifically, their behavior with respect to (i) suggests that *rokuna* N is a type of NPI and different from the other two. The Agree operations proposed by different researchers are so diverse that the plausibility of each analysis is dependent on the legitimacy of the type of Agree operation proposed for that analysis. To the extent that they are successful, they provide support for their proposals on Agree, and conversely, if their assumed operations of Agree are independently established or abandoned, their analyses may gain support or lose power.

In section 4, based on Miyagawa, Nishioka and Zeijlstra (2016), the possibility of new classification of the three kinds of NSIs was suggested, according to which both wh-MO and XP-*sika* are NCIs, although the different behavior of argument XP-*sika* and adjunct XP-*sika* must be explicated. A possible solution proposed by Miyagawa, Nishioka and Zeijlstra (2016) concerns Case theory in Japanese, and pursuing the possibility will contribute to the elucidation of the NSI system as well as the role of Case in Japanese. Although many problems still remain, it can be said that great progress has been made in the study of negation with corresponding progress in linguistic theory, and further study of negative phenomena will contribute to the development of linguistics.

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## 18 Ga/No conversion

### 1 Introduction

Nominative/Genitive Conversion, also known as Ga/No Conversion (henceforth GNC), has been intensively investigated since S.I. Harada's (1971) seminal work. Over the years, several competing hypotheses have emerged, and, on occasion, conflicting judgments are reported for some of the crucial examples. This chapter starts with a brief overview of some of the representative works on GNC, and then proceeds to offer a possible line of analysis based on insights from the past literature and new sets of data from a dialect spoken in Nagasaki.

Let us start with some basic properties of GNC that any serious analysis needs to have in its scope, although many of them have been called into question. First, GNC is a non-root phenomenon.

- (1) *Taroo ga/\*no kita.*  
Taro NOM/\*GEN came  
'Taro came.'

- (2) *Taroo ga/no kita hi*  
Taro NOM/GEN came day  
'the day that Taro came'

Although this is a correct description for the standard Japanese (henceforth SJ), the *no*-subject does occur in root clauses in some dialects. We will take up this point in section 3. Second, GNC typically occurs in adnominal clauses, such as relative clauses and noun-complement clauses.

- (3) a. *Taroo ga/no katta hon*  
Taro NOM/GEN bought book  
'the book that Taro bought'
- b. *Taroo ga/no kita koto*  
Taro NOM/GEN came thing  
'the fact that Taro came'

Third, the alternation between *ga* and *no* is generally considered to be optional (but see Miyagawa (2011) for an opposing view). This, however, does not mean that the alternation is always possible. For example, the *no*-subject does not occur with a

direct object, a restriction known in the literature as the transitivity restriction (TR). We will discuss TR in section 4.2.

- (4) *kinoo Taroo ga/\*no hon o katta mise*  
 yesterday taro NOM/GEN book ACC bought store  
 ‘the store where Taro bought a book yesterday’

Finally, *no* does not alternate with the accusative *o* (see Shibatani 1978; Saito 1983).

- (5) *Taroo ga hon o/\*no katta mise*  
 Taro NOM book ACC/\*GEN bought store  
 ‘the store where Taro bought a book’

But this does not mean that GNC applies exclusively to the subject. Japanese allows a *ga*-marked object in a clause with a stative predicate (see Koizumi 2008; Chapter 12 [Kishimoto, this volume]; among many others), and GNC may apply to the object in such cases. Furthermore, as noted by Miyagawa (1993) among others, stative predicates allow both the subject and the object to alternate between *ga* and *no*. Thus, the following four combinations are all allowed: *ga-ga*, *ga-no*, *no-ga*, and *no-no*.

- (6) *Taroo ga/no eigo ga/no wakaru koto*  
 Taro NOM/GEN English NOM/GEN understand thing  
 ‘the fact that Taro understands English’

In the next section, we will review some of the major approaches to GNC.

## 2 Previous approaches

### 2.1 D-licensing approaches

One major approach to GNC is often referred to as “D-licensing” approach. “D” in this case refers to a syntactic head whose projection is a DP, which is a prototypical syntactic realization of an argument. The idea behind the D-licensing approach goes back to Bedell’s (1972) restructuring analysis, which attempts to assimilate GNC to cases like (7) where a modifier (or a possessor) of a nominal is marked with *no* (see Saito 1983).

- (7) *Taroo no kuruma*  
 Taro GEN car  
 ‘Taro’s car’

### 2.1.1 Miyagawa (1993)

Miyagawa's (1993) analysis capitalizes on this idea. Adopting the DP hypothesis (see Abney 1987; among many others), he proposes that *no* in GNC is genitive Case that is licensed (or checked) by the D head. Furthermore, Miyagawa argues that this Case checking takes place in covert syntax. His proposal is primarily based on the following set of observations. First, *ga*-subject and *no*-subject show distinct scope properties: the former cannot take scope over the head noun such as *kanoosei* 'probability' while the latter can. According to Miyagawa, the wide scope reading of the *no*-subject is a consequence of its movement into the spec of DP, an option not available for the *ga*-subject (because the latter has its Case licensed against T inside the adnominal clause).

- (8) a. *Rubii ka sinzyu ga yasuku naru kanoosei o osiete.*  
 ruby or pearl NOM cheap become probability ACC tell me  
 (i) 'Tell me the probability that rubies or pearls become cheaper.'  
 (ii) \*'Tell me the probability that rubies become cheaper or the probability that pearls become cheaper.'
- b. *Rubii ka sinzyu no yasuku naru kanoosei o osiete.*  
 ruby or pearl GEN cheap become probability ACC tell me  
 (i) 'Tell me the probability that rubies or pearls become cheaper.'  
 (ii) 'Tell me the probability that rubies become cheaper or the probability that pearls become cheaper.'

Second, the genitive subject may be preceded by an adverb such as *kotosi* 'this year' (see Nakai 1980).

- (9) *kotosi sinzyu ga/no yasuku naru kanoosei*  
 this year pearl NOM/GEN cheap become probability  
 'the probability that pearls will become cheap this year'

Modifiers like *kotosi* 'this year' must be accompanied by *no* when they occur within an immediate projection of a noun, as shown below.

- (10) *kotosi \*(no) natu*  
 this year GEN summer  
 'this year's summer'

This shows that *kotosi* 'this year' in (9) is inside the noun-complement clause. Then the *no*-subject in the same example must also be within the adnominal clause in

overt syntax. Hence, the movement of the genitive subject into the spec of DP occurs in covert syntax.

Another important observation in Miyagawa (1993) is that a wide scope reading of *no*-subject is suppressed when an adverb (or a PP) occurs to its left:

- (11) a. *Kotosi rubii ka sinzyu ga yasuku naru*  
           this year ruby or pearl NOM cheap become  
           *kanoosei ga 50 paasento izyoo da.*  
           probability NOM 50 percent over be  
           (i) ‘the probability that rubies or pearls become cheaper this year is over 50 percent.’  
           (ii) \*‘the probability that rubies become cheaper this year or the probability that pearls become cheaper this year is over 50 percent.’
- b. *Kotosi rubii ka sinzyu no yasuku naru*  
           this year ruby or pearl GEN cheap become  
           *kanoosei ga 50 paasento izyoo da.*  
           probability NOM 50 percent over be  
           (i) ‘the probability that rubies or pearls become cheaper this year is over 50 percent.’  
           (ii) \*‘the probability that rubies become cheaper this year or the probability that pearls become cheaper this year is over 50 percent.’

Assuming that the spec of DP may be A- or A-bar position, and armed with a specific implementation of the minimal link condition, Miyagawa argues that the ambiguity of (8b) is due to the dual nature of the spec of DP in Japanese. When it is an A-position, we only obtain the wide scope reading of the genitive subject, assuming that there is no reconstruction with A-movement (see Chomsky 1995; Lasnik 1999). The narrow scope reading of the genitive subject obtains when the spec of DP is an A-bar position, assuming that A-bar movement allows (or forces) scope reconstruction. Given all these, Miyagawa claims that an element such as an adverb (e.g. *kotosi* ‘this year’), if located higher than the genitive subject, blocks A-movement of the genitive subject. This is why the wide scope reading of the genitive subject is not available.

Miyagawa’s (1993) analysis has been influential up to date. At the same time, several problems have been noted in the literature. For example, it is unclear why adjunct modifiers, which need no Case, would block A-movement of the genitive subject. Also, as Watanabe (1996) notes, the domain of GNC includes the relative clause, which is an adjunct (see Chapter 16 [Miyamoto, this volume] for discussion of the syntax of relative clauses in Japanese). The D-licensing approach would therefore need to allow a syntactic dependency across an adjunct in a principled manner. These issues are taken up by Ochi (2001).

### 2.1.2 Ochi (2001)

Adopting and extending Miyagawa's analysis, Ochi (2001) seeks to establish a syntactic parallel between GNC and the exceptional case marking (ECM) construction in English as analyzed by Lasnik (1999). Ochi's modifications of Miyagawa's (1993) analysis concern the following points. First, movement of the genitive subject may in principle occur in covert syntax (as in Miyagawa 1993) or it may occur in overt syntax.<sup>1</sup> Second, the spec of DP is unambiguously an A-position.

According to Ochi, (8b) is ambiguous because the movement of the genitive subject may take place in overt syntax, or it may occur in covert syntax. Overt A-movement of the genitive subject creates a new scope relation. Further, given the lack of A-movement reconstruction, this derivation leads to the wide scope reading only. When the genitive phrase undergoes covert movement (in the form of formal feature movement), only the narrow scope reading is available. The situation is analogous to expletive constructions, which have been analyzed in terms of covert movement of the associate to the location of the expletive (see Chomsky 1995 among many others). For example, (12a) lacks the reading in which the associate of *there* (i.e. *many pictures*) takes scope over negation, unlike (12b):

- (12) a. *There aren't many pictures on the wall.*  
       b. *Many pictures aren't on the wall*

Note that this covert feature movement may be reinterpreted as Agree in the sense of Chomsky (2000) and his subsequent works.

Now, as briefly alluded to above, Watanabe (1996) points out a potential theoretical problem with Miyagawa's (1993) D-licensing approach. Since the relative clause is an adjunct inside a DP, the postulated movement of the *no*-subject out of a relative clause into the spec of DP should be an adjunct condition violation. Addressing this issue, Ochi (2001) first argues, on independent grounds, that the operation Attract is not sensitive to CED(Condition on Extraction Domain)-type islands. The reason is as follows: Attract is, by definition, a target-based (or probe-based, in a more recent terminology) operation, and, accordingly, minimality is calculated from the viewpoint of the target/probe (see Chomsky 1995: chapter 4). Simply put, this type of minimality dictates that a target/probe is allowed to search its c-command domain and find the closest goal, and the search must come to a halt once the closest goal is found. This is, the search (or probing) cannot go beyond the closest goal. This is all that matters, and it does not care about the type of domain (i.e. complement or non-complement) in which the closest goal is located as long as it is within a c-command domain of

<sup>1</sup> For Ochi (2001), the optionality in the timing of the genitive phrase movement is obtained in noun-complement clauses but not in relative clauses. See below.

the target/probe. Ochi (1999, 2001) then argues that feature movement is via Attract and hence is immune to non-Relativized Minimality islands, including the adjunct island. What is not allowed is for an entire phrase (or a category) to be extracted out of non-complement domains (because the category movement obeys a different, “greedy” locality condition). On the basis of these points, Ochi (2001) argues that while the movement of a *no*-subject from noun-complement clauses may be overt (i.e. phrasal) or covert (i.e. via Attract F or Agree), it is restricted to the latter in the case of GNC in relative clauses.

One possible objection to this line of analysis is the optionality in the timing of movement associated with the genitive phrase, as pointed out by Maki and Uchibori (2008). While the affinity between GNC and the ECM construction in English suggests that it is not an isolated property of GNC, it still begs the question of how we can capture it. Note that the postulated movement of a *no*-subject is not scrambling. As noted by Miyagawa (1993), scrambling cannot apply across an adnominal clause; observe the lack of a wide scope reading of a scrambled object in the following example:

- (13) *Rubii ka sinzyu o Taroo ga kau kanoosei o osiete.*  
 ruby or pearl ACC Taro NOM buy probability ACC tell me  
 ‘Tell me the probability that Taro will buy a ruby or a pearl.’  
 \*‘Tell me the probability that Taro will buy a ruby or the probability that  
 Taro will buy a pearl.’  
 probability > [ruby or pearl]; \*[ruby or pearl] > probability

For this issue, Ochi simply adopts Lasnik’s suggestion for the ECM, and suggests that the functional head that licenses genitive (i.e. nominal AGR) is optionally present: when it is present, it triggers overt movement and when absent covert feature checking takes place between the genitive subject and the head noun. This is arguably an undesirable aspect of Ochi’s analysis.

There is another issue to consider. Consider the following example from Ochi. The genitive phrase in this example is clearly out of the adnominal clause, as it occurs to the left of another modifier (i.e. a relative clause). According to Ochi (2001), this example lacks the narrow scope of the genitive phrase because (i) the genitive phrase is raised into the spec of DP in overt syntax and (ii) there is no A-movement reconstruction.

- (14) *Rubii ka sinzyu no, kono konpyuutaa ga keisan*  
 ruby or pearl GEN this computer NOM calculate  
*sita, kotosi yasuku naru kanoosei*  
 did this year cheap become probability

- (i) \*‘the probability that rubies or pearls become cheap this year which this computer calculated’
- (ii) ‘(?)the probability that rubies become cheap this year or the probability that pearls become cheap this year which this computer calculated’  
\*probability > [ruby or pearl]; [ruby or pearl] > probability

But there is an alternative way to interpret this type of data. Suppose that the genitive phrase is base-generated in the spec of DP as a possessor, which binds (or controls) a null argument inside the clause with which it is associated. This line of analysis is also consistent with the lack of a narrow scope reading in (14).

- (15) *[Rubii ka sinzyu]<sub>i</sub> no [kono konpyuutaa ga keisan sita]*  
 ruby or pearl GEN this computer NOM calculate did  
*[pro<sub>i</sub> kotosi yasuku naru] kanoosei*  
 this year cheap become probability

Exploring an analysis of this sort, Maki and Uchibori (2008) suggest that the dependency between the genitive phrase and D is established in covert syntax in examples like (9) where the *no*-subject is clearly inside the adnominal clause, and the wide scope reading of the *no*-phrase is not due to the movement of the *no*-phrase, but to the base-generation of the possessor phrase in the spec of DP that acts as a controller, a possibility that Hiraiwa (2001) also suggests and refers to as the “pseudo GNC” (but see note 2 for a potential objection to the pseudo GNC analysis).

### 2.1.3 Miyagawa (2011)

Extending his (1993) earlier work and placing GNC in a cross-linguistic context, Miyagawa (2011) proposes that GNC is not a matter of genuine optionality as commonly conceived in the literature. Instead, he argues that the nominative and the genitive occur in distinct types of clauses. The *ga*-subject is licensed by T that is selected by C. Hence, it occurs in a CP clause. On the other hand, the genitive, Miyagawa argues, occurs in a reduced clause, by which he means a bare TP.

Miyagawa provides two arguments for the view that *ga* and *no* occur in clauses of different sizes: pronominal binding and co-occurrence with CP-level adverbs. The first point is due to Sakai (1994), who observed a contrast between *ga* and *no* with respect to binding of a pronoun that occurs in the adnominal clause.

- (16) a. *Hanako no [kinoo kanozoyo ga yatotta] gakusei*  
 Hanako GEN yesterday she NOM hired student  
 ‘Hanako’s student that she hired yesterday’

- b. ??*Hanako no [kinoo kanozyo no yatotta] gakusei*  
 Hanako GEN yesterday she GEN hired student

Sakai (1994) attributes a contrast of this kind to the raising of the genitive subject into the spec of DP (which, for Sakai, takes place in covert syntax). After raising, *kanozyo no* ‘she GEN’ in (16b) is too close to *Hanako no* ‘Hanako GEN’. Miyagawa adopts Sakai’s idea and implements it in a slightly different manner. For Miyagawa, the contrast is due to the difference in the size of the clause containing the nominative and the genitive. The nominative clause is a full CP, which constitutes an opaque domain for an external binder. In contrast, the genitive phrase occurs in a reduced clause, and the latter is transparent and allows binding from outside.<sup>2</sup>

The second argument for the CP vs. TP distinction involves “high” adverbials that may or may not occur in the genitive clause. Following Cinque (1999), Miyagawa (2011) identifies evaluative adverbials, such as *saiwai-ni* ‘fortunately,’ as CP-level adverbials (see Chapter 15 [Koizumi, this volume] for more discussion of this point). He then argues that such high adverbials cannot occur in a clause containing the genitive subject (but see Nambu 2011 for a different judgment).

- (17) [*saiwai-ni Taroo ga/\*no yomu*] *hon*  
 fortunately Taro NOM/GEN read book  
 ‘the book that Taro fortunately will read’

One important consequence of this analysis concerns the syntactic locations of the nominative subject and the genitive subject. The former is licensed by T, which inherits formal properties including the EPP property and Case-related features from the C head that occurs immediately above it. Due to the EPP requirement, the *ga*-subject raises to the domain of TP. On the other hand, the genitive clause lacks a CP layer, which, under Miyagawa’s proposal, would mean that T does not inherit any of such formal features from a higher phase head. The genitive subject therefore does not have any motivation to move out of its underlying position and thus remains internal to *vP*. Note that this hypothesis echoes Watanabe’s (1996) hypothesis, which will be reviewed in 2.2.1.

Miyagawa discusses several issues in connection with the last point. For instance, he argues that this line of analysis is in line with S.I. Harada’s (1971) old observation that the genitive subject (but not the nominative subject) sounds best if it is adjacent to the predicate of a clause in which it occurs. It begins to sound degraded when an element or two intervenes between the genitive phrase and the predicate (see Chapter 14 [Koizumi, this volume] for relevant discussion).

<sup>2</sup> To the extent that the contrast in (16) is substantial, it would undermine the pseudo GNC analysis illustrated in (15): *pro* in this representation, like *kanozyo* ‘she’ in (16b), should induce a Condition B violation.



- (18) *kodomotati ga/\*no minnade ikioiyoku kake-nobotta kaidan*  
 children NOM/GEN together vigorously run-climbed.up stairway  
 ‘the stairway which those children ran up together vigorously’

Miyagawa’s explanation for this observation is as follows: In order to occur to the left of such adjuncts, the genitive subject must undergo movement, but there is no driving force for such a movement. We will see later on that this difference between *ga* and *no* with respect to their surface positions is more clearly observable in some dialects of Japanese. Miyagawa also relates this issue to the transitivity restriction, which will be taken up in section 4.2.

While quite insightful, there are some aspects of Miyagawa’s analysis that need careful scrutiny. First, as reviewed above, he claims that the alternation between *ga* and *no* is not a matter of genuine optionality but is conditioned by the size of an adnominal clause: the nominative subject occurs in a CP and the genitive subject in a bare TP. We therefore expect the two types of subjects to be mutually exclusive. As Miyagawa himself acknowledges, however, this is not the case. As we already saw in (6), *ga* and *no* do co-occur in the same clause.

- (19) a. *Taroo ga eigo no waku koto*  
 Taro NOM English GEN understand thing  
 ‘the fact that Taro understands English’  
 b. *Taroo no eigo ga waku koto*  
 Taro GEN English NOM understand thing

For reasons having to do with the analysis entertained in Miyagawa (2012), which will be reviewed in section 2.3, the *ga-no* sequence illustrated in (19a) does not pose a problem for Miyagawa (2011). However, the availability of the *no-ga* sequence illustrated in (19b) is unexpected under his analysis. Miyagawa speculates that the nominative on the object in such cases is presumably licensed in a manner that does not rely on the C-T association. This issue will be considered in section 3.3.

Second, Miyagawa attributes the distinct scope properties of the nominative and the genitive phrases that we saw in (8) to the phase-bound nature of quantifier raising (QR). *Ga*-subject occurs in a CP, which is a phase. Hence it cannot take scope over the head noun. *No*-subject, on the other hand, occurs in a TP that lacks a CP layer. Since TP is not a phase, the *no*-subject is free to take scope over the head noun. But this analysis faces the same difficulty that Miyagawa (1993) did with respect to the unambiguity of examples such as (11b). It would be necessary to say that a QRed element cannot move across an adjunct element (e.g. *kotosi* ‘this year’), but that needs independent justifications.

## 2.2 C-licensing approaches

We now turn to another influential line of approach to GNC, often referred to in the literature as C-licensing approaches, which are represented by Watanabe (1996) and Hiraiwa (2001, 2005). Although the two authors diverge on the specifics of their proposals, they both called into question the role of D in GNC by presenting GNC examples that (seemingly) occur in the absence of a nominal head (and hence D).

### 2.2.1 Watanabe (1996)

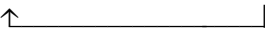
Watanabe's (1996) analysis, which is couched in the early minimalist framework, attempts to bring a cross-linguistic perspective to an analysis of GNC. He argues that essentially the same mechanism lies behind GNC in Japanese and stylistic inversion (SI) in French. In order to establish this point, he points out a few similarities between the two constructions, including (but certainly not limited to) optionality and the transitivity restriction (see Watanabe 1996 for details). He also argues that GNC is not about Case alternation as standardly assumed. For Watanabe, *ga* and *no* are two distinct manifestations of the nominative Case, with their distributions correlating with the distinct structural positions in which the "nominative" phrase occurs. While *ga* appears when the nominative phrase is external to VP, *no* appears when the nominative phrase remains VP-internal, which is possible in the domain of *wh*-extraction (e.g. relative clauses and comparatives). For this reason, Watanabe considers *no* as a manifestation of *wh*-agreement. And it is for this reason that Watanabe's analysis has often been categorized as a C-licensing approach, although C actually plays a somewhat indirect role in his analysis.

Watanabe's analysis can be schematically illustrated below. Consider the example in (20), which shows TR effects with the *no*-subject (see section 4.2 for more on this issue).

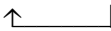
- (20) *Zyon ga/\*no hon o kasita hito*  
 John NOM/GEN book ACC lent person  
 'the person to whom John lent a book'

According to Watanabe, although TP (in the Pollockian sense) is present in the structure, its spec is not available as an intermediate landing site in languages such as Japanese and French (see Watanabe 1996 for details on this). The derivation of (20) with a *ga*-subject is shown in (21)–(22). The subject moves to the spec of AGRsP in overt syntax, as shown in (21). At LF, the accusative object moves to the spec of AGRoP, as shown in (22). Note that although the object movement crosses the trace of the subject in the spec of VP, no minimality violation arises because the spec of VP and the spec of AGRoP are rendered equidistant as a result of the verb movement.

(21)  $[_{CP} [_{Agr-sP} John_i Agr [_{TP} T [_{Agr-oP} [_{VP} t_i hon t_k kasita ]]]]] hito_k$

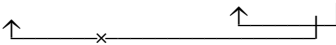


(22)  $[_{CP} [_{Agr-sP} John_i Agr [_{TP} T [_{Agr-oP} hon_j [_{VP} t_i t_j t_k kasita ]]]]] hito_k$



On the other hand, the derivation with *no*-subject, which remains VP-internal in overt syntax, induces a minimality violation at LF. This is because the LF movement of the subject into the spec of AGRS<sub>P</sub> needs to cross the object in the spec of AGRO<sub>P</sub> and yet the two spec positions cannot be made equidistant (recall that the spec of TP is not available in Japanese under Watanabe's analysis).

(23)  $[_{CP} [_{Agr-sP} John_i Agr [_{TP} T [_{Agr-oP} hon_j [_{VP} t_i t_j t_k kasita ]]]]] hito_k$



Some questions have been posed against this analysis, including the absence of GNC in *wh*-questions (see Hiraiwa 2001, 2005). Nevertheless, Watanabe's analysis has been influential in the subsequent development in the field. Among other things, his claim that the *ga*-subject and the *no*-subject occupy distinct structural positions is gaining empirical support not only from standard Japanese (Miyagawa 2011) but also, and perhaps more clearly, from some dialects spoken on the island of Kyushu, where GNC occurs much more extensively (see section 3).

### 2.2.2 Hiraiwa (2001, 2005)

Hiraiwa's analysis is more directly committed to the view that C is the key player in GNC. Based on a detailed investigation of the morphosyntax of complementizer systems in Japanese and beyond, Hiraiwa proposes that GNC in Japanese (and elsewhere) occurs in clauses whose predicates are nominalized. In Japanese, this nominalized inflection corresponds to the Predicate Adnominal (P-A.) form (*Rentai-kei*). He then goes on to argue that this P-A. form is a syntactic reflex of a special C-T relation.<sup>3</sup>

Hiraiwa offers a cross-linguistic analysis of GNC(-like) constructions by examining a wide range of data from a number of unrelated languages. Among other things, he argues that Turkish supports his C-licensing analysis of Japanese. Turkish has a possessive agreement marker, which typically occurs on the nominal head in a

<sup>3</sup> Hiraiwa (2001: 72) has a slightly different formulation: "The syntactic C-T-V head amalgamate formed via AGREE corresponds to the special verbal inflection *predicate adnominal form* (the P-A. form)."

possessive construction. In the genitive subject construction, this marker shows agreement with a genitive subject and appears on the predicate of the adnominal clause, and not on the external nominal head.

- (24) *Dün Mary nin bas-i-na koy-dig-u toko*  
 yesterday Mary 3.GEN head-3.SG.POSS put-NMLZ-3.SG.POSS hairclip  
 ‘the hairclip which Mary put on her head yesterday’ (Hiraiwa 2005: 123)

This is a good indication that the C-system is involved in the licensing of the genitive Case in Turkish.

One crucial aspect of his analysis is that the same type of C-T association acts as a probe for both nominative (*ga*) and genitive (*no*). As Hiraiwa himself notes, this hypothesis nicely captures the fact, shown for example in (6), that a *ga*-phrase and a *no*-phrase freely co-occur in any order in the same clause, which may be unexpected if *ga* and *no* are licensed by distinct probes as argued by the proponents of the D-licensing approach. At the same time, his analysis faces a challenge with respect to data such as (18), which shows that the two types of subjects do appear to occur in distinct syntactic positions, as Hiraiwa explicitly argues that the *no*-subject, like the *ga*-subject, raises to the spec of TP.

All in all, Hiraiwa’s analysis has had a significant impact on the field. One of the important contributions of his work comes from the wide range of data that he provides as counterexamples to the D-licensing approach. In particular, he provides data of the following kind to demonstrate that GNC occurs in the absence of a head noun.<sup>4</sup> Note in this context that the significance of the GNC in comparative clauses (see (25b)) was originally pointed out by Watanabe (1996).

- (25) a. *Taroo wa [ame ga/no yamu made] ofisu ni ita.*  
 Taro TOP rain NOM/GEN stop.PRS.ADN until office at was.  
 ‘Taro was at his office until the rain stopped.’  
 b. *Taroo wa [Hanako ga/no yonda yori]*  
 Taro TOP Hanako NOM/GEN read.ADN than  
*takusan no hon o yonda.*  
 many GEN book ACC read.CONCL  
 ‘Taro read more books than Hanako.’  
 c. *[Boku ga/no omou ni] Taroo wa*  
 I NOM/GEN think.ADN DAT Taro TOP  
*Hanako ga sukini tigaina-i.*  
 Hanako NOM like must-PRS  
 ‘I think that Taro likes Hanako.’

<sup>4</sup> Hiraiwa also discusses GNC in cleft constructions and head-internal relative clauses as counterexamples for the D-licensing approach.

- d. [*Sengetu ikkai denwa ga/no atta kiri*]  
 last month once call NOM/GEN be.PST.ADN since  
*Taroo kara nanimo renraku ga nai.*  
 Taro from any call NOM be.not  
 'There has been no call from Taro since he called me up once last month.'
- e. *Kono atari wa [hi ga/no kureru*  
 this area TOP sun NOM/GEN go.down.PRS.ADN  
*niture(te)] hiekonde kuru.*  
 as colder.get come.PRS  
 'It gets chillier as the sun goes down around here.'
- f. *Taroo wa [toki ga/no tatu to tomoni]*  
 Taro TOP time NOM/GEN pass.ADN with as  
*Hanako no koto o wasurete itta.*  
 Hanako-GEN fact ACC forget go.PST  
 'Hanako slipped out of Taro's memory as times went by.'
- g. [*Taroo ga/no kuru to konai to*]  
 Taro NOM/GEN come.ADN and come.not.ADN and  
*de wa ootigai da.*  
 TOP great.difference be.PRS  
 'It makes a great difference whether Taro comes or not.'

Hiraiwa then notes that the genitive clauses in these examples have predicates in the P-A. forms (although, as he notes, it is not possible to demonstrate this point for the GNC clauses in (25c–g) in Modern Japanese).

- (26) *Zyon wa izyoona made ni sinkeisitu da.*  
 John TOP extraordinary.ADN extent DAT nervous be  
 'John is extremely nervous.'
- (27) *Zyon no koto ga sinpaina yorimo*  
 John GEN thing NOM worried.ADN than  
*Hanako no koto ga sinpai da.*  
 Hanako GEN thing NOM worried be.CONCL  
 'I am worried about Hanako rather than about John.'

Such observations led to the proliferation of interesting works on GNC. For example, in defense of the D-licensing approach, Maki and Uchibori (2008) (see also N. Harada 2002) argue that such examples in fact contain a phonologically null noun that selects

a genitive clause. As they point out, adding the nominalizer *no* as a head of the embedded clause in many of these examples does not affect interpretation. As for (25a), Maki and Uchibori postulate a silent counterpart of *toki* ‘time’ that selects the adnominal clause (but see below for an objection to this point).

- (28) *Taroo wa [ame ga/no yamu toki made] ofisu ni ita.*  
 Taro TOP rain NOM/GEN stop.PRS.ADN time until office at was.  
 ‘Taro was at his office until the time that the rain stopped.’

Sudo (2009) also argues on independent grounds that what looks like a clausal comparative in Japanese, in which GNC is allowed (to some extent, with some speaker variations), in fact contains a silent degree noun such as *ryoo* ‘amount’ or a silent concrete noun (such as *hon* ‘book’ in the case under discussion). According to Sudo, (25) is analyzed as in (29).

- (29) *Taroo wa [Hanako ga/no yonda ryoo/hon*  
 Taro TOP Hanako NOM/GEN read.ADN amount/book  
*ori] takusan no hon o yonda.*  
 than many GEN book ACC read

Takahashi (2010), however, provides evidence that (25a) and (28) do not share the same syntactic structure. One of the differences that Takahashi points out lies in the scope property of the genitive subject. Recall that the genitive subject, unlike the nominative subject, may take scope over the head noun (see (8b)). In the clause headed by *made* ‘until’, the presence/absence of an overt head noun makes a difference:

- (30) a. *[Taroo ka Hanako ga kuru zikan made] mati-masyoo.*  
 Taro or Hanako NOM come time until wait-let.us  
 ‘Let’s wait until the time when Taro or Hanako comes.’  
 \*‘Let’s wait until the time Taro comes or the time Hanako comes.’
- b. *[Taroo ka Hanako no kuru zikan made] mati-masyoo.*  
 Taro or Hanako GEN come time until wait-let.us  
 ‘Let’s wait until the time when Taro or Hanako comes.’  
 ‘Let’s wait until the time Taro comes or the time Hanako comes.’
- (31) a. *[Taroo ka Hanako ga kuru made] mati-masyoo.*  
 Taro or Hanako NOM come until wait-let.us  
 ‘Let’s wait until the time Taro or Hanako comes.’  
 \*‘Let’s wait until the time Taro comes or the time Hanako comes.’

- b. [Taroo ka Hanako no kuru made] mati-masyoo.  
 Taro or Hanako GEN come until wait-let.us  
 ‘Let’s wait until the time when Taro or Hanako comes.’  
 \*‘Let’s wait until the time Taro comes or the time Hanako comes.’

When an overt head noun is present, the wide scope reading of the genitive subject is available, as shown in (30b). The absence of the wide scope reading of the genitive subject in (31b), which lacks an overt head noun, is an indication that no silent head noun is present in this case, Takahashi reasons.

### 2.3 Miyagawa (2012) on Genitive of Dependent Tense

Accepting Takahashi’s (2010) overall conclusion, Miyagawa (2012) argues that the genitive in cases like (25a) is an entirely different type of genitive, what he calls *genitive of dependent tense (GDT)*. His proposal rests on another observation made by Takahashi (2010): virtually all the examples that Hiraiwa (2001) provides as evidence against the D-licensing approach, including those with *made* ‘until’ and *toki* ‘when,’ employ unaccusative predicates.<sup>5</sup> Replacing the unaccusative predicate by an unergative predicate results in degradation in acceptability.

- (32) a. [Kodomo ga/\*no waratta toki], tonari no heya ni ita.  
 child NOM/GEN laughed when next GEN room in was  
 ‘When the child laughed, I was in the next room.’  
 b. [Kodomo ga/no kita toki], tonari no heya ni ita.  
 child NOM/GEN came when next GEN room in was  
 ‘I was in the next room when the child came.’

(see Miyagawa 2012: 151–152)

This point also suggests that the genitive in (25a) is not licensed by C, either, since the C-licensing approach would not expect the choice of the predicate to affect the acceptability of the genitive subject in the temporal adjunct clause. Rather, the contrast between (32a) and (32b) suggests that this type of genitive marking targets only internal arguments.

Miyagawa (2012) argues that this type of special genitive marking in Japanese is akin to the genitive of negation in Slavic (see Pesetsky 1982; among others), a phenomenon where an internal argument may optionally bear genitive in a negative clause. Some representative paradigms of the latter are shown below (see Pesetsky 1982):

<sup>5</sup> Miyagawa assumes that *toki* is a C head when it occurs as the head of a temporal adjunct clause.

(33) *direct object*

- a. *Ja ne polučal pis'ma.*  
 I NEG received letters.ACC.PL  
 'I didn't receive the letters/?any letters.'
- b. *Ja ne polučal pisem.*  
 I NEG received letters.GEN.PL  
 'I didn't receive \*the letters/any letters.'

(34) *unaccusative subject*

- a. *Griby zdes' ne rastut.*  
 mushrooms.NOM here NEG grow.3PL
- b. *Gribov zdes' ne rastët.*  
 mushrooms.GEN here NEG grow.3SG

(35) *unergative subject*

- a. *Ni odin rebënok ne prygnul.*  
 not one child.MASC.SG.NOM NEG jumped.MASC.SG
- b. *\*Ni odnogo rebënka ne prygnulo.*  
 not one child.MASC.SG.GEN NEG jumped.NEUT.SG

Note, however, that there are obvious differences between the two types of genitives. For example, while the genitive of negation occurs exclusively in a clause with negation, this is clearly not the case in Japanese. Another difference is that the type of genitive in Japanese that we saw in (25a) occurs only in embedded contexts (just like the other, more familiar kind of genitive that occurs in the adnominal clause), but the genitive of negation in Russian does occur in root clauses. Despite those differences, Miyagawa argues that the two genitive constructions can be analyzed in parallel once the details are fleshed out. He proposes that a common factor for the two genitive constructions is (weak) *v*. This explains the generalization that only internal arguments can be genitive, as external arguments reside outside the c-command domain of *v*. He further proposes that the type of genitive under discussion is assigned by a combination of *v* and another element that occurs in its vicinity: negation in the case of Russian and a specific type of tense, dependent tense, in the case of Japanese. Thus, in Slavic, genitive is (optionally) assigned to an internal argument by a combination of (weak) *v* and negation, and in Japanese, by a combination of weak *v* and dependent tense.

As for the notion of dependent tense, Miyagawa adopts Ogihara's (1994) proposal that the semantics of the tense in subordinate temporal adverbial clauses is not fully specified, and its semantics is in part determined in relation to the tense in an immediately higher clause. The following is an example from Miyagawa (2013: 11).



- (36) [*Hanako ga te o ageru/age*ta toki] *kore o watasite kudasai*.  
 Hanako NOM hand ACC raise/raised when this ACC give please  
 ‘Please hand this (to her) when Hanako (lit.) raises/raised her hand.’

As Ogihara notes, even when the verb of a temporal adjunct clause is inflected for past (e.g. *age*ta), the clause itself refers to a future event: the past tense morpheme in this case simply implicates that “the adverbial clause event (or state) occurs in the past of the matrix clause” (Ogihara 1994: 257). Similarly, when a non-past tense occurs on the verb in the same adjunct clause, the event is still a future event, which occurs “simultaneously (or subsequent to) the event or state described in the matrix clause” (Ogihara 1994: 257).

Miyagawa’s proposal captures the two obvious differences between the two genitive constructions mentioned above. GDT in Japanese is indifferent to the polarity of a clause because negation does not play a role in the conditions for GDT. Further, GDT cannot occur in the root clause because dependent tense, by definition, does not occur in the root clause. Instead, it occurs in certain types of subordinate clauses, especially those temporal adjunct clauses with *made* ‘until’ and *toki* ‘when’. Unlike GDT in Japanese, the genitive marking in Russian does not care about tense, and hence is indifferent to the root vs. non-root distinction.

While this line of analysis is novel and intriguing, it also faces some challenges. For example, as Miyagawa himself notes, the presence of a weak *v* and dependent tense does not always license GDT (see footnote 9 of Miyagawa (2012) for an illustration of this point with conditional adverbial clauses). Also, the genitive of negation in Russian alternates with accusative, which is not the case with GDT (see (5) in section 1). We should also note that the genitive of negation applies to VP-internal adjuncts as well (Pesetsky 1982):

- (37) a. *ja odin čas ne spal*.  
 I one hour.MASC.ACC.SG NEG slept  
 ‘I didn’t sleep for one hour.’  
 b. *?ja odnogo časa ne spal*.  
 I one hour.MASC.GEN.SG NEG slept

According to Pesetsky (1982: 216), (37a) tends to mean that “there was a one hour period in which I did not sleep”, while (37b) means “I didn’t even sleep for an hour” (i.e. slept for less), although (37a) can also have the latter interpretation. We find no comparable alternation in Japanese.

- (38) *Hamabe o/\*no aruku toki, tyuu*i-site *kudasai*.  
 shore ACC/GEN walk when attention-do please  
 ‘Please watch out when you walk on the shore.’

Thus, there is some degree of uncertainty associated with the alleged parallel drawn between GDT in Japanese and the genitive of negation in Russian. Nevertheless, section 3.2 will introduce an analysis according to which the weak *v*-licensing is productively used in some dialects of Japanese.

### 3 GNC in independent clauses

Up to now, we have focused on the GNC in standard Japanese, where the domain of GNC is confined to adnominal clauses and a subset of temporal adjunct clauses. However, it is known that GNC enjoys a much wider distribution in dialects spoken in parts of Kyushu Island, e.g. Saga, some parts of Fukuoka, most parts of Kumamoto, and Nagasaki. This section will introduce some key data from the past literature on GNC in these dialects as well as new sets of data from Nagasaki Japanese (NJ) discussed by Ochi and Saruwatari (in press).

#### 3.1 Previous works on GNC in independent clauses

As already mentioned, GNC occurs in the root clause in those dialects. One intriguing property of GNC in these Kyushu dialects is that the alternation between *ga* and *no* is not totally free but is governed by interpretative considerations. In particular, authors such as Hatsushima (1998), Kato (2007), Yoshimura (2007), and Nishioka (in press) observe that *ga* is typically used for the exhaustive listing (EL) reading while *no* is reserved for the neutral description (ND) reading in the sense of Kuno (1973) (see also Kuroda 1965).<sup>6</sup> This point holds in Nagasaki Japanese, too. Thus, the prominent reading of (39) is an ND reading, and replacing *no* by *ga* makes the EL reading salient.

- (39) *Basu no ki-ta.*  
 Bus GEN come-PST  
 ‘The bus has come.’ [\*standard J; √ NJ]

How to characterize the EL reading in formal terms is an issue that is beyond the scope of this chapter. For concreteness, let us assume that it amounts to narrow focus (see Heycock 2008), although this chapter continues to use the term ‘exhaustive listing reading’, following the familiar practice in the literature.

The interpretive distinction between *ga* and *no* mentioned above helps us to confirm that the GNC in independent clauses in NJ and the GNC in adnominal

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<sup>6</sup> Although this may be a matter of preference rather than an absolute requirement in some cases.

clauses in SJ (and in NJ) are indeed of the same species. As shown in (40), *no* cannot appear on a subject that is modified by a focus particle such as *dake* ‘only’ (see Hatsushima 1998; Kato 2007). The same restriction has been noted for the GNC in the adnominal clause in SJ by Akaso and Haraguchi (2011) and Miyagawa (2013), as shown in (41). This commonality between the two instances of genitive clearly indicates that the genitive subject in the main clause in NJ and the one in adnominal clauses in SJ (and also in NJ) should be grouped together as the same type of genitive phrase.

- (40) *Kon naka jaa Taroo dake ga/\*no gaikoku ni itta to bai.*  
 these among in.TOP Taro only NOM/\*GEN foreign.country to went C  
 ‘Among these people, it is only Taro who has been to foreign countries.’

- (41) *Taroo dake ga/\*no itta kuni*  
 Taro only NOM/\*GEN went country  
 ‘the country that only Taro went’

Also, as Kuno (1973) notes, the *ga*-subject of an individual-level predicate necessarily yields an EL reading in the root clause, but the situation is different in the embedded context, where the same type of subject may have either of the two readings. This makes the GNC in the matrix clause all the more important, since the distinction between the two readings under discussion is more easily detectable in the GNC in the matrix clause.

Returning to the main discussion, Kato (2007) claims that interpretation is not the only factor that distinguishes *ga* and *no*. She argues for a structural condition on GNC: *ga*-subject is *vP*-external and *no*-subject is *vP*-internal (recall that this is precisely what Watanabe (1996) claims for GNC in standard Japanese). Her proposal is based on the observation that *no* cannot appear on a transitive subject nor on the subject of a stative predicate, as shown in (42a) and (43b).<sup>7</sup> On the other hand, *no* is

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<sup>7</sup> A remark is in order here regarding (40). Given the ungrammaticality of (42a) with *no* on the transitive subject, one might say that (40) with *no* on the unergative subject is likewise ruled out independently of the presence of the focus particle *dake*. As (i) below shows, however, an example like (40) with the *no*-subject is fine if *dake* is removed.

- (i) *Taroo ga/no gaikoku ni itta to bai.*  
 Taro NOM/GEN foreign.country to went C  
 ‘Taro went to foreign a foreign country/foreign countries.’

One crucial difference between (42a) and (i) concerns the right periphery of a clause (see section 3.2 for details). The acceptable sentence in (i) ends with a combination of discourse particles (*to* and *bai*), whereas (42) has just *bai* at the end. Ochi and Saruwatari (in press), which will be introduced in section 3.2, report that examples like (42) with *no* on the transitive subject improve significantly when the sentence ending is enriched with an additional discourse particle.

allowed on a transitive subject when the object is scrambled (42b) and on the object of a stative predicate (43a). In fact, *no* is preferred in the latter cases.

- (42) a. *Taroo ga/\*no son syoosetu ba koota bai.*  
           Taro NOM/GEN the novel ACC bought SFP  
           ‘Taro bought the novel.’
- b. *Son syoosetu ba Taroo ga/no koota bai.*  
           the novel ACC Taro NOM/GEN bought SFP
- (43) a. *Taroo ga eigo ?ga/no dekuru to.*  
           Taro NOM English Nom/GEN can C  
           ‘Taro is capable of English.’
- b. *\*Taroo no eigo ga/no dekuru to.*  
           Taro GEN English NOM/GEN can C

The unavailability of *no* in (43b) naturally follows from the generalization that *no* is incompatible with the EL reading. As is well known, the subject of an individual predicate (including stative predicates such as *dekiru* ‘can/capable’) necessarily receives an EL reading in the root clause. The contrast in (42) is crucial for Kato, whose analysis is based on Miyagawa’s (2001) EPP-based analysis of scrambling. According to Kato, *no* does not appear in (42a) because the subject in this case is in the spec of TP. In (42b), on the other hand, the scrambled object satisfies the EPP, allowing the subject to remain in *vP*. Note that *ga* is also allowed in this example because of another derivation in which the subject is in the spec of TP and the object has undergone A-bar scrambling. Note also that to the extent that (42b) is acceptable with the genitive subject, it shows that this dialect does not show TR effects. This point will be discussed in section 4.2.

So, we seem to have two general conditions imposed on the GNC in Kyushu Japanese. One involves interpretation (exhaustive listing vs. neutral description) and the other involves structure (*vP*-external vs. *vP*-internal). If they go hand in hand (see also Nishioka in press), the following picture will emerge. The *ga*-phrase is located outside *vP* and receives the EL reading. The *no*-phrase is *vP*-internal and yields the ND reading. While this correlation between interpretation and structure seems to be fairly robust, there is an exception. As the following data from NJ shows, a focus particle may appear on a *no*-object (see section 4.1 for more discussion of this issue).

- (44) *Hanako ga huranugo dake no hanas-e-ru to yo.*  
       Hanako NOM French only GEN speak-can-PRS C  
       ‘(Listen,) Hanako can speak only French.’

Let us now examine the matrix GNC in Kyushu Japanese in relation to the matrix clause in standard Japanese where *no* does not occur. Does the structural distinction between *ga* and *no* established in Kyushu Japanese also hold in standard Japanese despite the surface difference? That is, could it be that the sole difference between Kyushu Japanese and standard Japanese is that the same grammatical property (i.e. nominative Case) receives two distinct phonetic realizations in the former but not in the latter? Perhaps a concrete example will be helpful in making the issue clearer. According to this line of hypothesis, (45), which has both the EL reading and the ND reading in standard Japanese, would be structurally ambiguous. The EL reading is obtained when the subject moves out of *vP*, whereas the ND reading comes out of the structure in which the nominative phrase remains within *vP*.

- (45) *Basu ga ki-ta.*  
 bus NOM come-PST  
 ‘The bus has come.’ [standard Japanese]  
 a. [<sub>CP</sub> [<sub>TP</sub> *bus<sub>i</sub>-NOM* [<sub>vP</sub> *t<sub>i</sub> came-v*] *T*] *C*] (EL)  
 b. [<sub>CP</sub> [<sub>TP</sub> [<sub>vP</sub> *bus-NOM came-v*] *T*] *C*] (ND)

The answer is negative, for the following reason. According to Kishimoto (2001), an indeterminate pronoun may function as a negative polarity item (NPI) when it is bound at LF by the Q particle *mo*. When *mo* is attached to a lexical verb, only those elements that are inside a *vP* are bound by *mo* (presumably because a verb suffixed with *mo* is located at the *v*-position). As Kishimoto notes, there is a subject/object asymmetry in the construction with *V+mo*: unlike the object, the subject cannot be licensed in this type of construction, regardless of the type of the predicate.

- (46) a. *Taroo ga nani o kai mo si-nakat-ta.*  
 Taro NOM anything ACC buy Q do-NEG-PST  
 ‘Taro didn’t buy anything.’  
 b. *\*Dare ga hon o kai mo si-nakat-ta.*  
 anyone NOM book ACC buy Q do-NEG-PST  
 ‘Anyone didn’t buy a book.’  
 (47) a. *\*Dare ga warai mo si-nakat-ta.*  
 anyone NOM laugh Q do-NEG-PST  
 ‘Anyone didn’t laugh.’  
 b. *\*Dare ga ki mo si-nakat-ta.*  
 anyone NOM come Q do-NEG-PST  
 ‘Anyone didn’t come.’

With this point in mind, let us consider the following pair of data in (48) from Nagasaki Japanese in relation to (47b) from standard Japanese. The data show two things. First, the *ga*-marked subject in (48a) is indeed outside *vP* whereas the *no*-subject in (48b) is located internal to *vP*, which corroborates Kato's (2007) conclusion that the choice between *ga* and *no* reflects a structural difference. Second, and more importantly, (45) in standard Japanese is not structurally ambiguous. Rather, the *ga*-subject in standard Japanese always moves out of *vP* (by LF, at least). The *no*-subject in Kyushu Japanese stays within *vP* throughout the derivation, an option not available for the *ga*-marked subject in Kyushu dialects (see (48a)) or for the *ga*-subject in standard Japanese (see (47b)).

- (48) a. \**Dai ga ki mo se-nkat-ta.*  
           anyone NOM come Q do-NEG-PST
- b. *Dai no ki mo se-nkat-ta.*  
           anyone GEN come Q do-NEG-PST (see Saruwatari 2015)

In short, there does seem to be a crucial difference between standard Japanese and the Kyushu dialects under discussion with respect to the nature of the EPP in the matrix clause: in standard Japanese, the requirement is a must whereas in Kyushu dialects, this requirement can be suspended.

### 3.2 D-licensing, C-licensing and v-licensing

This subsection will sketch a possible line of analysis explored in Ochi and Saruwatari (in press). Before introducing their main proposal, let us recall Kato's (2007) claim that GNC in Kumamoto Japanese cannot target the external argument.

- (49) a. *Hanako no ki-ta.*  
           Hanako GEN come-PST  
           'Hanako came.'
- b. \**Hanako no warat-ta.*  
           Hanako GEN laugh-PST  
           'Hanako laughed.'
- (50) a. *Taroo ga eigo ?ga/no dekuru to.*  
           Taro NOM English NOM/GEN can C  
           'Taro is capable of English.'
- b. \**Taroo no eigo ga/no dekuru to.*  
           Taro GEN English NOM/GEN can C

Investigating a dialect spoken in Nagasaki, Ochi and Saruwatari (in press) observe that the external subject can indeed be marked with *no* (i) in a progressive form and (ii) in the presence of a certain combination of discourse/modal particles, such as *to + yo* and *to + bai*:

- (51) a. *Taroo ga/no warat-to-ru.*  
 Taro NOM/GEN laugh-TE-be.PRS  
 ‘Taro is laughing.’
- b. *Taroo ga/no warat-ta to yo/to bai.*  
 Taro NOM/GEN laugh-PST C  
 ‘Hey (Listen), Taro laughed.’

Similarly, Ochi and Saruwatari (in press) observe that while the NJ counterparts of (50a, b) show a similar contrast (i.e. subject/object asymmetry), such contrast disappears if the sentence ending is enriched.

- (52) a. *Taroo ga eigo ?ga/no dekuru to yo/bai.*  
 Taro NOM English NOM/GEN can C  
 ‘Taro is capable of English.’
- b. *Taroo no eigo ?ga/no dekuru to yo/bai.*  
 Taro GEN English NOM/GEN can C

Thus, the addition of *yo* or *bai* to the right of *to* (which corresponds to *no* for standard Japanese) makes a difference. Following the recent practice in the literature, Ochi and Saruwatari assume that these particles occur as distinct syntactic heads in the articulated CP area (in the cartographic sense). For example, Saito (2013) argues that the sentence-ending particle *no* in SJ (which corresponds to *to* in NJ) is a Finite head. Kido (2013) argues that *bai* is located at Force.

It is instructive in this context to introduce Hasegawa’s (2008; cf. 2010 also) discussion of the ND reading in the matrix clause. According to Hasegawa, the ND reading of a *ga*-subject has a specific requirement in the matrix clause that need not be met in embedded contexts: the ND reading in the matrix clause is possible if the clause is a “presentational” sentence, which, roughly put, has the function of describing an unfolding event or a state that is newly noted by the speaker and presenting it to the hearer as new information. Crucially, Hasegawa explicitly refers to the progressive aspect and the presence of particular discourse particles as crucial elements for turning a root sentence into a presentational mode:

- (53) a. *\*?Oya, Taroo ga hon o yon-da.*  
 Oh Taro NOM book ACC read-PST  
 ‘Oh, Taro read a book.’

- b. *Oya, Taroo ga hon o yon-de-iru.*  
 Oh Taro NOM book ACC read-TE-be.PRS  
 'Oh, Taro is reading a book.'
- c. *Oya, Taroo ga hon o yon-da yo.*  
 Oh Taro NOM book ACC read-PST C  
 'Oh, Taro read a book.'

As a technical implementation of this idea, Hasegawa proposes that the ND reading in the matrix C requires a specific type of C-system. She postulates the feature [+presentational] (or [+p] for short), which appears on the matrix Force head and demands certain lexical items such as a progressive morpheme or a discourse particle within the same clause. Ochi and Saruwatari's (in press) observation thus fits in well with Hasegawa's (2008) description of the ND reading in the matrix clause. Let us therefore suppose that the C-system consisting of Fin and Force (among other C heads) plays an important role in licensing *no* on the external argument of the matrix clause.

Two points are worth highlighting before going into the details of Ochi and Saruwatari's (in press) analysis. First, as Hasegawa (2008) (see also Kuno 1973) notes, an unaccusative predicate does not require such sentence-endings in order for the clause to be presentational.

- (54) *Oya, basu ga ki-ta.*  
 Oh bus NOM come-PST  
 'Oh, the bus has come.'

This would mean that licensing *no* on an unaccusative subject in NJ does not depend on the C-system.

Second, the *ga*-subject and the *no*-subject have different scope properties irrespective of the predicate types. This shows that Ochi and Saruwatari's new observations conform to Kato's (2007) generalization: *no*-subject remains within *vP*, whether it occurs with an unaccusative predicate or an unergative predicate.

- (55) a. *Zen'in ga ko-n.*  
 all NOM come-NEG (all > not; \*not > all)  
 'Everyone hasn't come.'
- b. *Zen'in no ko-n.*  
 all GEN come-NEG ((?)all > not; not > all)
- (56) a. *Zen'in ga hasira-n to yo/bai.*  
 all NOM run-NEG C  
 'Everyone doesn't run.' (all > not; \*not > all)



- b. Zen'in no hasira-n to yo/bai.  
all GEN run-NEG C ((?)all > not; not > all)

Now, Ochi and Saruwatari's main proposal is summarized below:

(57) *Genitive Case licensors*

- (i) in standard Japanese (SJ):
  - a. D (Miyagawa 1993; Ochi 2001 etc.)
  - b. weak *v*, in conjunction with dependent tense (Miyagawa 2012)
- (ii) in Nagasaki Japanese (NJ):
  - a. D
  - b. weak *v*
  - c. C (combinations of a Finite head and a Force head)

(58) Independent clauses project up to TP when there is no overt complementizer.

According to this line of analysis, Standard Japanese has two modes of genitive Case licensing, D-licensing and GDT, neither of which is available in the matrix clause. On the other hand, the list of GNC licensors is more extensive in Nagasaki Japanese. First, various complementizers license genitive.<sup>8</sup> Second, weak *v* licenses genitive on its own.

Now let us examine (49). In (49a), the genitive on the unaccusative subject is licensed by weak *v*, as shown below. By contrast, the genitive on the unergative subject is not licensed in (49b) because none of the GNC licensors listed in (57ii) is in the structure. Note that the assumption in (58) is crucial for this line of analysis.

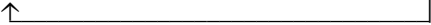
- (59) a. [<sub>TP</sub> [<sub>vP</sub> [<sub>vP</sub> hanako-no ki] v] ta]  
           ↑  
        b. [<sub>TP</sub> [<sub>vP</sub> hanako-no [<sub>vP</sub> warai] v] ta]

And the contrast between (49b) and (51b) is due to the presence of a complex C-system (consisting of Fin and Force) in the latter.

As for the progressive example (51a), we could follow Hasegawa (2008) and assume that a progressive form is somehow tied to the C-system. If so, the C-system would license genitive on the external argument in this case as well. As an alternative, Ochi and Saruwatari suggest that *no* in (51a) is licensed by weak *v*. Here are two crucial points of their analysis. First, *-toru* (*-teiru* for standard Japanese) consists of

**8** The *no*-subject is systematically allowed in a wide range of subordinate clauses in Nagasaki Japanese. See Ochi and Saruwatari (in press) for details. Due to space limitation, the discussion in this section is confined to the GNC in the matrix clause.

*-te* and the unaccusative verb *oru* ‘be/exist’ (*iru* for standard Japanese). Second, the verbal suffix *-te* is a T head that is not selected by C (see Nakatani 2013). In essence, Ochi and Saruwatari assume the *-toru* clause to be bi-clausal. Specifically, following Nakatani (2013), they assume that the unaccusative verb *oru* ‘be/exist’ in the progressive form selects a TP complement headed by *-te*. Under this set of assumptions, the genitive in (51a) is licensed by the weak *v* that occurs on top of *oru*.

- (60)  $[_{TP1} [_{VP1} [_{VP1} [_{TP2} [_{VP2} \text{ taroo-no } [_{VP2} \text{ warai}] v_2 ] te (=T_2)] oru] v_1] T_1]$   


But is there any clear evidence that weak *v* is indeed able to license genitive on its own in Nagasaki Japanese? Ochi and Saruwatari provide one piece of evidence for this hypothesis. Consider (61), in which the adjunct clause headed by *-te* contains an unergative predicate. Here the genitive marking on the unergative subject is not allowed in Nagasaki Japanese (nor in SJ) because (i) there is no weak *v* in the adjunct clause here (*v* in this case is a strong *v*) and (ii) *-te* clause is a bare TP, lacking a CP layer. Note that this example will be well formed in both dialects if *no* is replaced by *ga*.

- (61) *Hanako no odot-te, minna wa yorokon-da.*  
 Hanako GEN dance-TE everyone TOP rejoice-PST  
 ‘Everyone was glad as Hanako danced.’  
 [\*standard J; ?\*Nagasaki J]

The genitive subject of an unaccusative predicate in the same environment, on the other hand, is possible in Nagasaki Japanese, but not in Standard Japanese. Again, the example would be fine in both dialects with *ga* on *Hanako*.

- (62) *Hanako no ki-te, minna wa yorokon-da.*  
 Hanako GEN come-TE everyone TOP rejoice-PST  
 ‘Everyone was glad as Hanako came.’  
 [\*standard J; √ Nagasaki J]

Ochi and Saruwatari’s analysis of this contrast goes as follows. First, the ungrammaticality of (62) in SJ indicates that *-te*, which is regarded as T (a temporal sequential marker according to Nakatani 2013), does not qualify as dependent tense in the sense of Miyagawa (2012): If it did, this example should be fine in SJ. Given this point, the grammaticality of the same example in NJ shows that genitive is licensed by weak *v*, and by weak *v* alone.

Some comments are in order regarding Ochi and Saruwatari's analysis. According to their analysis, every major phase head (i.e. D, C, and weak *v*) licenses genitive (except for strong *v*, which is reserved for accusative). Although each of these phase heads has been analyzed by various authors as playing a role in GNC in Japanese and elsewhere (see Hale 2002 for a D-licensing approach for Dagur; Kornfilt 2003 for a C-licensing approach for Turkish, etc.), one may wonder why all these licensing options manifest themselves within a single dialect/language (although UG certainly does not exclude such a language). Despite this conceptual worry, we might be able to gain a new perspective on the GNC in standard Japanese if we look at it from the standpoint of Nagasaki Japanese. For instance, we might be able to say that the former is somewhat impoverished in that C in SJ does not act as a GNC licensor, and weak *v* in SJ needs the assistance of dependent T when fulfilling its role as a GNC licensor. Again, all this is speculative. Second, although Ochi and Saruwatari advocate C-licensing for Nagasaki Japanese, their view is crucially different from Hiraiwa's (2001, 2005) analysis. For instance, the P-A. form does not play a role in their account of GNC. As the following example of Nagasaki Japanese from Saruwatari (2015) shows, GNC is licensed in a clause whose predicate is in the conditional form.

- (63) [*Zyon ga/no kureba*] *minna yorokobu yo.*  
 John NOM/GEN come.COND everyone be.pleased C  
 'Everyone will be delighted if John comes.'

### 3.3 Nature of the alternation in GNC

The analysis in the previous subsection may shed some light on the nature of the alternation between *ga* and *no*. Let us revisit two influential proposals in the literature. Hiraiwa (2001, 2005) analyzes the alternation as a matter of pure optionality, with both case values being assigned by the same probe (i.e. specific C-T system). Miyagawa (2011), on the other hand, assumes distinct clause sizes for *ga* and *no*: *ga* appears in a CP and *no* in a TP. Both approaches have appeals and drawbacks. While Hiraiwa's analysis allows us to capture the fact that *ga* and *no* co-occur and do not interfere with each other as shown in (6), it fails to predict the distinct positions occupied by the *ga*-subject and the *no*-subject (i.e. *v*P-internal vs. *v*P-external). Miyagawa's proposal (2011) fits nicely with S.I. Harada's (1971) observation (see (18)) as well as with the distinct distributions of *ga* and *no* that are clearly observed in Kyushu dialects: the *ga*-subject is located at TP because it is probed by T as the latter inherits formal properties from C, but T is inert in the genitive subject construction, forcing the latter to remain within *v*P. And yet, Miyagawa's analysis would incorrectly expect *ga* and *no* to be mutually exclusive. Is there any way to gain any new insights out of these two contrasting and competing viewpoints?

Let us explore one idea by revisiting the C-licensing part of Ochi and Saruwatari's analysis. On the standard assumption that nominative is licensed by T whose formal features originate in C, it is plausible to suppose that both the nominative *ga* and the genitive *no* start out on the same phase head, C. Now suppose that the difference between the two Case values comes from the ways in which they are assigned. When the C head transfers its grammatical features to T, so that T probes, we get the nominative *ga*. On the other hand, we get the genitive *no* when C acts as a probe without the mediation of T.

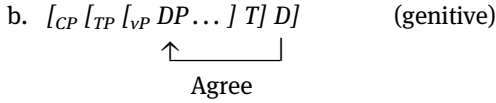
- (64) a.  $[_{CP} [_{TP} [_{vP} DP \dots ] T] C]$  (nominative)  
            $\uparrow \qquad \qquad \uparrow$   
           Agree          inheritance
- b.  $[_{CP} [_{TP} [_{vP} DP \dots ] T] C]$  (genitive)  
            $\uparrow \qquad \qquad \uparrow$   
           Agree

Like Hiraiwa (2001), this line of analysis would be able to explain why the *ga*-phrase and the *no*-phrase co-occur and do not interfere with each other: the two values are two distinct manifestations of the same grammatical property that can be traced back to the same phase head. At the same time, the hypothesis also incorporates Miyagawa's idea that T is inactive in the genitive construction, thus predicting that the *ga*-phrase occurs *vP*-externally and the *no*-phrase occurs *vP*-internally, as (55) and (56) show.

Now, what if we extend this line of analysis to the GNC in the adnominal domain? Given the syntactic parallelism between CP and DP (see Hiraiwa 2005), we could say that, this time, the nominative *ga* and the genitive *no* originate in D.<sup>9</sup> On the assumption that the adnominal clause is uniformly a TP (as in Murasugi 1991), the Agree relations depicted below are point by point analogous to the ones in the GNC in independent clauses (aside from the presence of a head noun between T and D, omitted here).

- (65) a.  $[_{CP} [_{VP} DP \dots] \quad T] \quad D]$  (nominative)
- 

9 The postulated syntactic dependency between D and *ga* receives support from diachronic perspectives. First, like *no*, *ga* was (and still is, to some extent) used as a possessive marker. Second, *ga* (as well as *no*) as a nominative marker was typically used in adnominal clauses (such as quasi-nominal phrases and Kakari-Musubi constructions), and rarely appeared in the main clause in Old Japanese. See Nomura (1993).



Of course, this line of approach generates a number of questions. First, if all the grammatical properties, including the EPP, originate on phase heads, it would be unclear why T has the EPP-property whereas C (or D) does not: recall that the C-licensed genitive phrase remains within  $vP$ , as (56b) shows.<sup>10</sup> Second, this analysis crucially assumes that the adnominal clause is a TP whether we have nominative or genitive. It thus needs to be carefully examined in light of the evidence provided by Miyagawa (2011) for the distinct sizes of adnominal clauses for *ga*-subjects and for *no*-subjects. Third, recall that Ochi and Saruwatari (in press) analyze the *te*-clause in (61) and (62) as bare TP, with no CP layer present. And yet, these examples are fine with *ga* instead of *no* on the subject, which is mysterious under the hypothesis entertained here (as well as under any analysis that relates the nominative *ga* to the presence of a C head). Also, the assumption in (58) cannot be maintained, so the analysis of (49b) needs some adjustment: perhaps we could say that (49b) is ruled out not because it lacks a CP layer but because the C-system needed to license the genitive needs a phonetic realization.

## 4 Further issues

In the remainder of this chapter, we will take up two issues that continue to pose questions, especially in light of the discussion in the previous section.

### 4.1 GNC and focus

As noted in section 3.1, the *no*-subject is incompatible with a focus particle such as *dake* ‘only’ in GNC in standard Japanese (see (41)). Miyagawa (2013), which is an extension of his earlier analyses (Miyagawa 1993, 2011, 2012), argues that this restriction is a natural consequence of his (2010) theory. Adopting Chomsky’s (2008) feature inheritance mechanism and allowing some degrees of variation in the features to be transferred across languages, Miyagawa argues that discourse configurational languages such as Japanese select topic/focus features as the target of the feature transfer operation. To be specific, those formal features originate on the C head (a phase head) and get inherited by T. Thus, focus feature checking requires a CP layer, but the genitive *no* cannot occur in CP. Miyagawa also argues that this analysis

<sup>10</sup> If Ochi (2001) is correct, D has the EPP-property, though optionally.

accounts for the fact, noted by Akaso and Haraguchi (2011), that the genitive object is compatible with *dake*. In this case, *no* on the object is licensed via GDT. Thus, nothing prevents the example from having a CP layer (including Focus Phrase).

- (66) *umi dake ga/no mi-e-ru hey*  
 ocean only NOM/GEN see-can-PRS room  
 ‘the room from which only the ocean can be seen’

The analysis faces some challenges, however. First, the *no*-subject and focus particles are not mutually exclusive, as the genitive subject construction may have focus particles on other elements such as an adverb (67) or a nominative object (68b).

- (67) *kinoo/sukosi dake Taroo ga/no nonda kusuri*  
 yesterday/little only Taro NOM/GEN took medicine  
 ‘the medicine that Taro took only yesterday/only a little’

- (68) a. *?\*Hanako dake no huransugo no hanas-e-ru koto*  
 Hanako only GEN French GEN speak-can-PRS fact  
 ‘the fact that only Hanako can speak French’  
 b. *Hanako no huransugo dake ga hanas-e-ru koto*  
 Hanako GEN French only NOM speak-can-PRS fact  
 ‘the fact that Hanako can speak only French’ (Miyagawa 2013: 19)

Second, the subject/object asymmetry that we saw in (68) is replicated in independent clauses in Nagasaki Japanese.

- (69) a. *??Hanako dake no huransugo no hanas-e-ru to yo.*  
 Hanako only GEN French GEN speak-can-PRS C  
 ‘(Listen,) Only Hanako can speak French.’  
 b. *Hanako ga huransugo dake no hanas-e-ru to yo.*  
 Hanako NOM French only GEN speak-can-PRS C  
 ‘(Listen,) Hanako can speak only French.’

*No* on the unergative subject is licensed by the C-system under Ochi and Saruwatari’s analysis (recall that *no* on the unergative subject is not possible without complex sentence-final discourse particles such as *to yo*). And yet, it is still incompatible with *dake*, as (69a) shows. These points demand further investigations.

## 4.2 Transitivity restriction

As a final point of this chapter, let us consider the transitivity restriction (TR) in GNC.

- (70) *kinoo Taroo ga/\*no hon o katta mise*  
 yesterday taro NOM/GEN book ACC bought store  
 ‘the store where Taro bought a book yesterday’

The original observation goes back to S.I. Harada (1971), but Watanabe (1996) is the first to offer a detailed description as well as a comprehensive analysis of this restriction.<sup>11</sup> Shibatani (1975) offers an analysis of this restriction in terms of sentence processing. The idea is that since *no* is ambiguous between a subject marker (on a par with *ga*) and a genuine genitive marker, the use of *no* on the subject leads to a processing ambiguity when the subject is (immediately) followed by another nominal phrase such as a direct object. This is the reason that *no* is disfavored in examples like (70) for Shibatani. However, as noted by Inoue (1976) and Watanabe (1996), the combination of a genitive subject and a direct object is degraded irrespective of the word order. In the following example, for instance, there is no potential processing ambiguity as a result of the fronting of a direct object, and yet the sentence continues to be degraded with *no* on the subject.

- (71) *kinoo hon o Taroo ga/\*no katta mise*  
 yesterday book ACC taro NOM/GEN bought store  
 ‘the store where Taro bought a book yesterday’

One additional thing to note is that TR is lifted when the object is relativized (S.I. Harada 1971) or, more generally, when it is phonologically null (Hiraiwa 2001; Saito 2004).

- (72) *Taroo no pro katta hon*  
 Taro GEN bought book  
 ‘the book that Taro bought’

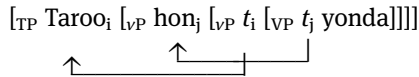
For the sake of simplicity, let us assume that the relative gap is (or can be) *pro*, as argued by Murasugi (1991).

Let us quickly go over some of the proposals in the literature. Roughly speaking, there are three lines of approaches to TR. One approach is to analyze TR in terms of minimality/intervention effects (Miyagawa 1993; Watanabe 1996; Ochi 2009; Bošković

<sup>11</sup> It should be noted that there is a certain degree of variation associated with speakers’ judgments about TR. In fact, S.I. Harada (1971) discussed (what is now regarded as) TR in the context of idiolectal variations.

2011). We already discussed Watanabe's (1996) analysis of TR in section 2.2.1. In a similar spirit, Ochi (2009) (see also Bošković 2011) analyzes TR under the assumption that the accusative (and also dative) object always moves to the edge of *vP* in overt syntax, crossing the original position of the subject in the (inner) spec of *vP*.

- (73) a. *Taroo ga hon o yonda.*  
 Taro NOM book ACC read  
 'Taro read a book.'



Ochi further proposes a phase-based calculation of equidistance: terms of the same minimal domain are equidistant (Chomsky 1995: chapter 3), but this equidistance relation holds only up to a point in the derivation at which a new phase head is introduced into the structure. Once this happens, equidistance is called off. For instance, multiple specs start out as equidistant, but cease to be equidistant upon the introduction of a new phase head such as C, strong *v*, or D. On the assumption that nominative is licensed by T and genitive by D, this analysis accounts for the TR with the *no*-subject while accommodating the fact that there is no TR with the *ga*-subject, as illustrated below. The point is that T can access the subject located in the inner spec of *vP*, as the two specs are equidistant. When D, which is a phase head, is introduced, equidistance no longer holds and D cannot find the subject due to minimality.

- (74) a.  $[_{TP} T [_{vP} \text{OBJ} [_{vP} \text{SBJ} [v [_{VP} \dots t_{OBJ} \dots]]]]]$
- 

- b.  $[D [_{TP} T [_{vP} \text{OBJ} [_{vP} \text{SBJ} [v [_{VP} \dots t_{OBJ} \dots]]]]]]]$
- 

As for (71), Ochi assumes that scrambling of the object cannot take place across the adnominal clause boundary, which is consistent with the fact, shown in (13) in section 2.1.2, that a scrambled object cannot take scope over the head noun. Thus, scrambled or not, the object acts as an intervener. As for the suspension of TR with a null object in (72), Ochi explores several possibilities, including one in which the object *pro* head-adjoins to the *v* head for Case checking purposes, so that it does not interfere with the Agree relation between the genitive subject and D:

- (75)  $[D [_{TP} T \dots [_{vP} \text{SBJ} [\text{pro-v} [_{VP} t_{pro} V]]]]]$
-



A second approach is found in Hiraiwa (2001, 2005) (see also Saito 2004), who argues that TR is not a matter of syntax per se but arises as a result of the interplay between syntax (i.e. valuation of abstract nominative Case via Agree) and Spell-Out at Transfer (i.e. realization of morphological accusative Case). At the core of his proposal is the following cross-linguistic generalization.

(76) *ACC-NOM Generalization*

Spell-Out of morphological Accusative case is contingent on structural  
Nominative Case. (Hiraiwa 2005: 145)

This generalization, which one could view as an instance of Marantz's (1991) notion of Dependent Case, neatly accommodates the contrast between (70) and (71), on the one hand, and (72) on the other. The latter is grammatical because the accusative case is not morphologically spelled out. One empirical question, however, concerns the status of the dative *ni* in TR. As Miyagawa (2011) notes, a combination of the genitive *no* and the dative *ni* shows the effect of TR. In the following pair of examples, the presence of a floating numeral quantifier forces *ni* to be dative rather than a postposition.

- (77) a. *Ziroo ga kodomo ni (san-nin) ageta hon*  
Jiro NOM child DAT three-CL gave book  
'the book that Jiro gave to (three) children'
- b. *Ziroo no kodomo ni (\*san-nin) ageta hon*  
Jiro GEN child Dat three-CL gave book

The degraded status of (77b) with a floating quantifier suggests that TR should not single out accusative as being incompatible with genitive.

Finally, based on Watanabe (1996) and Alexiadou and Anagnostopoulou (2001, 2007), Miyagawa (2012) argues that TR is an instance of the following cross-linguistic generalization:

(78) *The subject-in-situ generalization (SSG)*

By Spell-Out, *vP* can contain only one argument with an unchecked  
Case feature.

Given that the *no*-subject remains within *vP* (unlike the *ga*-subject that moves out), the effect of TR may be reducible to this generalization (although, as Alexiadou and Anagnostopoulou (2007) acknowledge, it is not totally clear if or how their analysis can be restated in a more recent framework in which the operation Agree applies in a cyclic fashion).

There is no doubt that the analyses reviewed above have been successful in shedding some lights on the nature of TR. Once we bring GNC in Kyushu Japanese into the discussion, however, we confront a problem. Recall Kato's (2007) observation about the absence of TR in the OSV order.

- (79) a. *Taroo ga/\*no son syoosetu ba koota bai.*  
           Taro NOM/GEN the novel ACC bought C  
           'Taro bought the novel.'
- b. *Son syoosetu ba Taroo ga/no koota bai.*  
           the novel ACC Taro NOM/GEN bought C  
           'Taro bought the novel.'

There seems to be a growing consensus among scholars that TR is absent in Kyushu Japanese (see Kato 2007; Nishioka in press).<sup>12</sup> But if so, what accounts for this dialectal difference?<sup>13</sup> The first and second approaches reviewed above have a difficulty in dealing with this dialectal variation. The third approach, which is based on the SSG, may successfully account for the contrast in (79) by saying that (79a) violates the SSG but (79b) does not, but it would be unclear why (71) in standard Japanese shows TR effects.

## 5 Conclusion

This chapter first provided a review of major works on GNC in standard Japanese, and then set out to expand its empirical coverage by introducing recent works on GNC in the main clause in Kyushu dialects. As discussed throughout the chapter, we still face many unresolved issues and mounting questions about the true nature

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<sup>12</sup> It appears, however, that such speakers do not constitute a homogeneous group, as the speakers of Nagasaki Japanese that Ochi and Saruwatari consulted do accept examples like (79a) as well as (79b), provided that the sentence ending is slightly more enriched, as shown in (i) below. Furthermore, some of them seem to have a slight preference for the SOV order over the OSV order, but more investigations are certainly necessary.

- (i) a. *Taroo ga/no son syoosetu ba koota to yo/bai.*  
           Taro NOM/GEN the novel ACC bought Fin C  
           'Taro bought the novel.'
- b. *Son syoosetu ba Taroo ga/no koota to yo/bai.*  
           the novel ACC Taro NOM/GEN bought Fin C  
           'Taro bought the novel.'

<sup>13</sup> Note that *ba* in Kyushu Japanese obeys the double-*o* constraint (the double-'*ba*' constraint, that is). Thus, *ba* does seem to be a genuine accusative marker, on a par with *o* in standard Japanese.

of GNC. Nevertheless, progress has been made, and we are beginning to see signs of cross-dialectal generalizations, such as the (near) complementarity between *ga* and *no* with respect to their structural positions and with respect to interpretations. Exploring such issues will no doubt lead to a better understanding of our linguistic faculty.

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# 19 Ellipsis

## 1 Introduction

Ellipsis in Japanese has been examined since the 1970's. Hinds (1973) observed the absence of VP-ellipsis and VP-preposing in Japanese and argued that the language lacks the VP-node.<sup>1</sup> The kinds of examples he considered are shown below with their English counterparts.

- (1) a. *I left because John did* [<sub>VP</sub> ~~leave~~].

b. \**Taroo ga kaetta node, watasi mo kaetta.*  
Taroo NOM left because I also left  
'I also left because Taroo did.'

- (2) a. *He said he would jump into the river, and* [<sub>VP</sub> *jump into the river*] *he did.*

b. \**Kawa ni tobikonda, kare ga (koto)*  
river to jumped.into he NOM fact  
Lit. '(the fact that) jump into the river, he did'

Kuno (1978), on the other hand, tried to explain the absence of VP-ellipsis with what is now known as Lasnik's (1981) stray affix filter. VP-ellipsis strands Tense and hence, *do*-support is required in examples like (1a). Kuno argues that the absence of a rule analogous to *do*-support makes VP-ellipsis impossible in Japanese. When a modal is present, VP-ellipsis does not strand Tense as shown in (3).

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<sup>1</sup> Hinds (1973) assumes, following a proposal in generative semantics, that VP is absent in deep structure universally. So what he argued for is that Japanese surface structure reflects the deep structure faithfully.

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**Note:** In this chapter, I focus on N'-ellipsis, VP-ellipsis, sluicing, and argument ellipsis. Among the analyses that imply other types of ellipsis are the PF deletion analysis of right node raising and the stripping analysis of right dislocation. The reader is referred to Mukai (2003) and An (2007) for the former and to Abe (1999) and Tanaka (2001) for the latter.

The material in this chapter was presented at various places and almost in the present form as the second of the five-part lecture series at Keio University on September 1–5, 2014. I have benefitted from discussions with many people over the years, including Howard Lasnik, Keiko Murasugi, Daiko Takahashi, and Kensuke Takita. I would like to thank Hisatsugu Kitahara in particular for helpful comments on the material in Section 4, and Shigeru Miyagawa, John Haig, and an anonymous reviewer for editorial advice.

- (3) *If Mary can eat it, John can* [<sub>VP</sub> ~~eat it~~], *too*.

But Kuno notes that the Japanese counterparts of the relevant modals are verbal suffixes, as exemplified in (4), and hence VP-ellipsis necessarily produces a stray affix.

- (4) *Taroo wa sore ga tabe-rare-ru*  
 Taroo TOP it NOM eat-can-PRS  
 ‘Taroo can eat it.’

Thus, the discussion on ellipsis in Japanese centered around its absence until the 1980’s with the exception of Inoue’s (1978) brief mention of sluicing, which I will come back to directly.<sup>2</sup>

However, the situation changed radically in the 1990’s. Saito and Murasugi (1990), Otani and Whitman (1991), Takahashi (1994), and Oku (1998) respectively argued for N’-ellipsis, VP-ellipsis, sluicing, and argument ellipsis in the language. Some examples are shown in (5).

- (5) a. N’-ellipsis

*Taroo no taido wa* [<sub>DP</sub> *Hanako no* [<sub>NP</sub> *e*]] *yorimo yoi*.  
 Taroo GEN attitude TOP Hanako GEN than good  
 ‘Taroo’s attitude is better than Hanako’s.’

- b. sluicing

*Kare wa dokoka e itta ga, boku*  
 he TOP somewhere to went though I  
*wa* [<sub>CP</sub> *doko e* [<sub>C</sub> [<sub>TP</sub> *e*] *ka*]] *siranai*.  
 TOP where to Q know.not  
 ‘He went somewhere, but I don’t know where.’

- c. argument ellipsis

*Taroo wa zibun no kuruma o aratta. Hanako mo* [<sub>DP</sub> *e*] *aratta*.  
 Taroo TOP self GEN car ACC washed Hanako also washed  
 ‘Taroo washed his car. Hanako also washed his/her car.’

In the following section, I will discuss the initial analyses for these phenomena and present a preliminary picture of ellipsis in Japanese.

Many new descriptive issues arose in the efforts to develop those initial analyses. For example, Hoji (1998) presents evidence against the VP-ellipsis analysis, which

<sup>2</sup> Another example of this is found in Kuno (1973). He considers what appears to be “backward gapping” in Japanese and suggests that the relevant examples should be analyzed as instances of right node raising instead.



applies to argument ellipsis as well, and proposes that the relevant examples are to be accounted for with *pro*. Funakoshi (2012, 2013) argues against argument ellipsis in favor of V-stranding VP ellipsis. I will consider these works in Section 3. I will argue there that the potentially problematic examples they present do not constitute evidence against argument ellipsis but instead provide further evidence for its analysis in terms of LF copying. At the end of the section, I will discuss Takita's (2012) new evidence for sluicing and Watanabe's (2010) argument for a QP projection in Japanese noun phrases on the basis of N'-ellipsis that strands a classifier phrase. The discussions in this section and the next aim to lay out bases for future research rather than to present concrete hypotheses.

In Section 4, I will speculate on the direction for providing deeper explanations for the ellipsis phenomena. As argument ellipsis is not observed in many languages, including English, it should be explained why it is possible only in Japanese and a few other languages. The second issue concerns the syntactic conditions on N'-ellipsis, VP-ellipsis, and sluicing. A generalization is proposed in Saito and Murasugi (1990) and Lobeck (1990) that the complements of D (N'-ellipsis), T (VP-ellipsis), and C (sluicing) can be elided only when the specifier positions of these functional heads are filled. This, if valid, demands an explanation. I will discuss these issues and suggest directions to pursue them. The discussion is based on the mechanism of  $\phi$ -feature agreement (Chomsky 2000, 2008) as well as the labeling algorithm (Chomsky 2014). Section 5 concludes this chapter.

## 2 A Preliminary Survey of the Phenomena

In this section, I will briefly go over the initial arguments for N'-ellipsis (Saito and Murasugi 1990), VP-ellipsis (Otani and Whitman 1991), sluicing (Takahashi 1994), and argument ellipsis (Oku 1998; Kim 1999) in Japanese. The argument ellipsis analysis developed out of the VP-ellipsis hypothesis and was intended to replace it. Further arguments for argument ellipsis are presented in Saito (2004), Shinohara (2004), and Takahashi (2008). The first in particular raises doubts about the sluicing analysis. I will discuss these works as well and present a preliminary picture of ellipsis phenomena in Japanese.

### 2.1 N'-ellipsis

The purpose of Saito and Murasugi (1990) was two-fold. One was to show that ellipsis provides evidence for CP and DP structures, and the other was to argue for N'-ellipsis in Japanese. Let me start with the first.<sup>3</sup>

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<sup>3</sup> The reader is referred also to Lobeck (1990), which reaches the same conclusion with basically the same arguments.

N'-ellipsis and sluicing have mysterious properties if the X'-theory of Chomsky (1970) is assumed. First, what is elided is an intermediate projection as shown in (6) and (7).

- (6) a. *I read Bill's book, but I haven't read* [<sub>NP</sub> *Mary's* [<sub>NP</sub> ~~*book*~~]].  
       b. *Rome's destruction was worse than* [<sub>NP</sub> *London's* [<sub>NP</sub> ~~*destruction*~~]].
- (7) a. *John bought something, but I don't know* [<sub>S</sub> *what* [<sub>S</sub> ~~*he bought*~~]].  
       (S = T', S' = TP)
- b. *John knows* [<sub>S</sub> *which girl* [<sub>S</sub> *Mary likes*]], *but he doesn't know* [<sub>S</sub> *which boy* [<sub>S</sub> ~~*she likes*~~]].

This is puzzling given that the targets of grammatical operations are limited to heads and maximal projections. Further, N'-ellipsis is possible only with a genitive remnant, and sluicing requires a wh-phrase that moved out of the elided S. Thus, (8) and (9) are ungrammatical in contrast with (6) and (7).

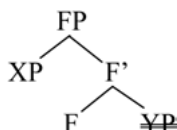
- (8) a. \**John has a dog, but Mary doesn't have* [<sub>NP</sub> *a* [<sub>NP</sub> ~~*dog*~~]].  
       b. \**I want to read the book because I hear good thing about* [<sub>NP</sub> *the* [<sub>NP</sub> ~~*book*~~]].
- (9) a. \**John said he saw a unicorn, but I don't know* [<sub>S</sub> *if* [<sub>S</sub> ~~*he saw a unicorn*~~]].  
       b. \**John denied that he cheated, but I believe* [<sub>S</sub> *that* [<sub>S</sub> ~~*he cheated*~~]].

It is curious that the ellipsis of N' and S is dictated by the element in the specifier position.

Saito and Murasugi (1990) point out that the DP hypothesis (Fukui and Speas 1986; Abney 1987) and the CP hypothesis (Stowell 1981; Chomsky 1986a) make it possible to describe the phenomena more straightforwardly. What is elided are the NP complement of D in the case of N'-ellipsis and the TP complement of C in sluicing. Both are maximal projections. Further, the genitive phrases in (6) are specifiers of D whereas the articles in (8) are D heads. Similarly, the wh-phrases in (7) are specifiers of C whereas *if* and *that* in (9) occupy the C position. Then, N'-ellipsis and sluicing can be characterized as the ellipsis of the complements of D and C in the presence of a specifier. If VP-ellipsis applies to the VP (or vP) complement of T, the three elliptic phenomena receive a unified description. (10) shows the version of the generalization proposed in Richards (2003).<sup>4</sup>

<sup>4</sup> Both Saito and Murasugi (1990) and Lobeck (1990) state that there must be a Spec-head agreement relation between XP and F. However, Richards (2003) argues that this is not only redundant but also incorrect.

- (10) Ellipsis: The complement of a functional category F (D, C, or T) can be elided only when F has a specifier, as illustrated below.



The simplicity of this description provides support for the DP and CP hypotheses.

Having proposed (10), Saito and Murasugi (1990) go on to examine N'-ellipsis in Japanese. It was known that there are examples that superficially look like instances of N'-ellipsis. Thus, (11a) looks very similar to its English counterpart in (11b).

- (11) a. *Taroo no hon wa [Hanako no \_\_] yori omosiroi.*  
           Taroo GEN book TOP Hanako no     than interesting
- b. *John's book is more interesting than [Mary's \_\_].*

Okutsu (1974), however, presents an alternative analysis for examples of this kind. He first notes that Japanese has a pronoun that corresponds roughly to *one* in English and is homophonous with the genitive Case marker. It is exemplified in (12).

- (12) *Akai no o mittu kudasai.*  
       red one ACC three give.me  
       'Please give me three of the red ones.'

Then, he proposes that *Hanako no* in (11a) is derived as in (13) with the deletion of the genitive *no*.

- (13) [*Hanako no no*]  
       Hanako GEN one

If (11a) can indeed be derived this way, it does not show that there is N'-ellipsis in Japanese.

Saito and Murasugi try to avoid the interference of the pronoun *no* just illustrated. Kamio (1983), for example, shows that the pronoun *no* is employed only when the noun phrase refers to a concrete (and probably specific) object and can never be used as a *pro*-form of an abstract noun. One of his examples is shown in (14b).

- (14) a. *Taroo wa yakyuuboo o kabutte ita. Ziroo mo aoi*  
           Taroo TOP baseball.cap ACC wearing.was Ziroo also blue  
           no o kabutte ita.  
           one ACC wearing.was  
           'Taroo was wearing a baseball cap. Ziroo also was wearing a blue one.'

- b. *Taroo mo Ziroo mo sinnen o motte iru.*  
 Taroo also Ziroo also belief ACC have  
 \**Tokuni Taroo wa katai no o motte iru.*  
 particularly Taroo TOP firm one ACC have  
 ‘Both Taroo and Ziroo have beliefs. In particular, Taroo has a firm one.’

(14a) is fine as *no* stands for a concrete noun *yakyuuboo* ‘baseball cap’ and the DP headed by *no* refers to a specific object. On the other hand, (14b) shows that the pronoun cannot be employed for the abstract noun *sinnen* ‘belief, conviction’. The examples in (15) confirm Kamio’s generalization.

- (15) a. \**Taroo no kenkyuu ni taisuru taido wa totemo yoi no datta.*  
 Taroo GEN research toward attitude TOP very good one was  
 ‘Taroo’s attitude toward research was a very good one.’  
 b. \**Hanako no supootu ni taisuru zyoonetu wa totemo hagesii no datta.*  
 Hanako GEN sports toward enthusiasm TOP very passionate one was  
 ‘Hanako’s enthusiasm toward sports was a very passionate one.’  
 c. \**Yamada-sensei no yasasisa wa totemo mi ni simiru no datta.*  
 Yamada-teacher GEN kindness TOP very touching one was  
 ‘Prof. Yamada’s kindness was a touching one (touched my heart).’

These examples indicate that the pronoun *no* cannot stand for nouns such as *taido* ‘attitude’, *zyoonetu* ‘enthusiasm’, and *yasasisa* ‘kindness’.

Given this, Saito and Murasugi present examples of the following kind as evidence for N'-ellipsis in Japanese:

- (16) a. *Taroo no sinnen wa [Ziroo no \_\_] yorimo katai.*  
 Taroo GEN belief TOP Ziroo GEN than firm  
 ‘Taroo’s belief is firmer than Ziroo’s.’  
 b. *Taroo no kenkyuu ni taisuru taido wa [Hanako no \_\_] ni kurabe-reba totemo yoi.*  
 Taroo GEN research toward attitude TOP Hanako GEN to compare-if very good  
 ‘Taroo’s attitude toward research is very good if we compare it with Hanako’s.’

- c. *Hanako no supootu ni taisuru zyoonetu wa [Taroo no \_\_] izyoo da.*  
 Hanako GEN sports toward enthusiasm TOP Taroo GEN above is  
 ‘Hanako’s enthusiasm toward sports is above Taroo’s.’
- d. *Yamada-sensei no yasasisa mo [Tanaka-sensei no \_\_] mo*  
 Yamada-teacher GEN kindness also Tanaka-teacher GEN also  
*totemo mi ni simiru.*  
 very touching  
 ‘Prof. Yamada’s kindness as well as Prof. Tanaka’s touched my heart.’

These examples are expected to be ungrammatical if the underlined *no* is a pronoun, because the pronoun *no* cannot be employed in place of abstract nouns. Yet, they are perfectly grammatical. This suggests that *no* in these examples is the genitive Case followed by an elided NP. The structure of the bracketed DP in (16b), for example, is as in (17).

- (17) [<sub>DP</sub> *Hanako no* [<sub>NP</sub> ~~*kenkyuu ni taisuru*~~ *taido*]]  
 Hanako GEN research toward attitude

In Japanese nominal projections, the genitive Case marker follows any DP or PP, as shown in (18).

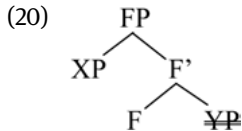
- (18) a. *Hanako no Tookyoo de no kabu no torihiki*  
 Hanako GEN Tokyo in GEN stock GEN dealing  
 ‘Hanako’s dealing of stocks in Tokyo’
- b. *Taroo no san-kai no muitimon de no Yooroppa*  
 Taroo GEN three-time GEN no.penny with GEN Europe  
*e no ryokoo*  
 to GEN trip  
 ‘Taroo’s three trips to Europe with no money’

However, it is not the case that any genitive phrase can be the remnant in N'-ellipsis. Thus, there is a clear contrast between (19a, b) and (19c, d).

- (19) a. *Taroo no taido wa [Hanako no \_\_] yorimo yoi.*  
 Taroo GEN attitude TOP Hanako GEN than good  
 ‘Taroo’s attitude is better than Hanako’s.’
- b. *Rooma no hakai wa [Kyoto no \_\_] yorimo hisan datta.*  
 Rome GEN destruction TOP Kyoto GEN than misery was  
 ‘Rome’s destruction was more miserable than Kyoto’s.’

- c. \**Saikin wa kumori no hi ga [ame no \_\_] yorimo ooi.*  
 nowadays TOP cloud GEN day NOM rain GEN than plentiful  
 'Nowadays, there are more cloudy days than rainy days.'
- d. \**Taroo wa issyuukan ni san-satu no hon o*  
 Taroo TOP one.week in three-volume GEN book ACC  
*yomu ga, Hanako wa [go-satu no \_\_] o yomu.*  
 read though Hanako TOP five-volume GEN ACC read  
 'Though Taroo reads three books per week, Hanako reads five.'

This contrast provides further evidence for N'-ellipsis in Japanese. The remnant genitive phrase is the subject in (19a) and the object in (19b). On the other hand, those in (19c, d) are adjuncts. Recall that N'-ellipsis applies as in (20), that is, the complement of D is elided in the presence of a specifier.



Then, N'-ellipsis is legitimate only when the remnant genitive phrase is in Spec, DP. And there is independent evidence that arguments but not adjuncts can move to this position. For example, (21) shows that the external and internal arguments can raise to Spec, DP but an adjunct *then* cannot.

- (21) a. [<sub>DP</sub> *the barbarians*'<sub>i</sub> [<sub>NP</sub> *t<sub>i</sub>* [<sub>N'</sub> *destruction of the city then*]]]
- b. [<sub>DP</sub> *the city*'s<sub>i</sub> [<sub>NP</sub> [<sub>N'</sub> *destruction t<sub>i</sub> then*]]]
- c. \*[<sub>DP</sub> *then*'s<sub>i</sub> [<sub>NP</sub> [<sub>N'</sub> *destruction of the city t<sub>i</sub>*]]]

Thus, the N'-ellipsis analysis correctly predicts the contrast in (19).

Saito and Murasugi (1990) point out two consequences of the proposed analysis. As an overt D is not observed in Japanese, it was unclear whether the language has this category. Fukui (1988), for example, proposes that languages are parameterized with respect to the presence vs. absence of functional categories and Japanese belongs to the latter group. The analysis above implies that D is present in Japanese and suggests the universality of the category. Secondly, genitive Case in Japanese, unlike genitive in English, can be assigned (or valued) within NP. (18c), for example, is ungrammatical because *ame no* 'rain GEN' cannot move to Spec, DP. Yet, (22) is perfectly grammatical without ellipsis.

- (22) [*ame no hi*]  
 rain GEN day  
 ‘a rainy day’

Then, the genitive on *ame* ‘rain’ must be licensed within the projection of N. (23) points to the same conclusion.

- (23) *Amerika-gun no Iraku no bakugeki wa* [<sub>DP</sub> *Igirisu-gun no*  
 U.S.-force GEN Iraq GEN bombing TOP U.K.-force GEN  
 [<sub>NP</sub> *Iraku no bakugeki*] *yorimo nagaku tuzuita.*  
 Iraq GEN bombing than long continued  
 ‘The U.S. force’s bombing of Iraq lasted longer than the British force’s.’

In this example, the elided NP includes the object *iraku no* ‘Iraq GEN’ as well as the head noun. Then, Saito and Murasugi, building on Bedell (1972) and Kitagawa and Ross (1982), propose that genitive in Japanese is a contextual Case that is inserted as in (24).

- (24) [<sub>α</sub> DP/PP β] → [<sub>α</sub> DP/PP *no* β], where α and β are projections of N or D.

## 2.2 VP-Ellipsis and Sluicing

Otani and Whitman (1991) and Takahashi (1994) argued for VP-ellipsis and sluicing in Japanese respectively. I will briefly go over these works in this subsection.

The arguments of Otani and Whitman (1991) start with an observation on the interpretation of null objects.

- (25) *Taroo wa zibun no kuruma o aratta. Hanako mo* [e] *aratta.*  
 Taroo TOP self GEN car ACC washed Hanako also washed  
 ‘Taroo washed his car. Hanako also washed his/her car.’

The null object in the second sentence allows both the strict interpretation (Hanako also washed his (= Taroo’s) car) and the sloppy interpretation (Hanako also washed her (= Hanako’s) car). The sloppy interpretation is unexpected if the null object is *pro* as was widely assumed since Kuroda (1965). The following examples indicate that sloppy interpretation obtains with ellipsis but not with pronouns:

- (26) a. *John loves his mother, and Mary does, too.* (Mary loves his/her mother)  
 b. *John loves his mother, and Mary loves her, too.* (Mary loves his mother)

In fact, only the strict interpretation is possible if an overt pronoun occurs in the position of the null object in (25).

- (27) *Taroo wa zibun no kuruma o aratta. Hanako mo sore o aratta.*  
 Taroo TOP self GEN car ACC washed Hanako also it ACC washed  
 'Taroo washed his car. Hanako also washed it (= his car).'

Huang (1987) discusses Chinese examples similar to (25), and presents an analysis in terms of V-stranding VP-ellipsis. Otani and Whitman (1991), then, argue that the analysis is applicable to Japanese as well. The idea is that (25) is derived with V-to-T raising followed by VP-ellipsis, as illustrated in (28).

- (28) [TP DP [T' [<sub>VP</sub> DP ~~*t<sub>V</sub>*~~ V+T]]
- | ↑

This analysis implies, contrary to what Kuno (1978) assumed, that V-T merger is achieved by V-raising in Japanese.

As mentioned at the outset of this chapter, Inoue (1978) noted that examples of the following kind may instantiate sluicing:

- (29) *Kare wa dokoka e itta ga, boku-wa* [<sub>CP</sub> *doko e ka*] *siranai.*  
 he TOP somewhere to went though I-TOP where to Q know.not  
 'He went somewhere, but I don't know where.'

Takahashi (1994) presents an argument for this based on the possibility of sloppy interpretation, just as Otani and Whitman (1991) did for VP-ellipsis. One of his examples is shown in (30).

- (30) *Taroo wa* [<sub>CP</sub> *naze zibun ga sikarareta ka*] *wakatte inai*  
 Taroo TOP why self NOM scold.PASS.PST Q understand.not  
*ga, Hanako wa* [<sub>CP</sub> *naze ka*] *wakatte iru.*  
 though Hanako TOP why Q understand  
 'Though Taroo doesn't understand why he was scolded, Hanako understands  
 why he/she was scolded.'

As indicated, the example allows both strict and sloppy interpretations. Takahashi takes this as evidence that (30) is derived by ellipsis, and as confirmation of the sluicing analysis suggested in Inoue (1978). According to this analysis, the embedded CP in (29) has the structure in (31).

- (31) [<sub>CP</sub> [*doko e*]<sub>i</sub> [<sub>C'</sub> [<sub>TP</sub> *kare ga t<sub>i</sub> itta*] *ka*]]  
 where to he NOM went Q



Takahashi (1994) draws a number of consequences from this analysis. Among them is that Japanese has optional *wh*-movement, as argued in Kuroda (1988). Recall that sluicing elides TP when Spec, CP is filled. The *wh*-phrase *doko e* ‘where to’ in (30) serves as a proper remnant in Spec, CP. As predicted, sluicing is illicit when Spec, CP is absent, as shown in (32).

- (32) \**Hanako wa* [<sub>CP</sub> [<sub>TP</sub> *pro soko ni itta*] *to*] *itte iru ga*,  
 Hanako TOP there to went COMP saying.is though  
*boku wa* [<sub>CP</sub> [<sub>TP</sub> ~~*pro soko ni itta*~~] *ka(dooka)*] *siranai*.  
 I TOP there to went whether know.not  
 Lit. ‘Though Hanako says that she went there, I don’t know if.’

Takahashi also points out some potential problems with his analysis. One is that the copula *da* ‘is’ can appear in the CP that sluicing applies to. Thus, (30), for example, remains grammatical and ambiguous between strict and sloppy readings with *da*, as shown in (33).

- (33) *Taroo wa* [<sub>CP</sub> *naze zibun ga sikarareta ka*] *wakatte inai*  
 Taroo TOP why self NOM scold.PASS.PST Q understand.not  
*ga, Hanako wa* [<sub>CP</sub> *naze da ka*] *wakatte iru*.  
 though Hanako TOP why is Q understand  
 ‘Though Taroo doesn’t understand why he was scolded, Hanako understands why he/she was scolded.’

There is no position for this copula under the sluicing analysis. Given this, Takahashi considers an alternative analysis with a *pro* subject instead of sluicing, as in (34).

- (34) ..., *Hanako wa* [<sub>CP</sub> [<sub>TP</sub> *pro naze (da) ka*]] *wakatte iru*.  
 Hanako TOP why is Q understand  
 ‘..., Hanako understands why it is.’

In this context, *da* is optional. Hence, the analysis in (34) correctly accounts for its absence in (30) and its occurrence in (33).

However, Takahashi rejects this analysis on the ground that it fails to account for the sloppy interpretation. Recall that pronouns only allow strict interpretation. (34) with an overt pronoun in fact does not allow sloppy interpretation, as shown in (35).

- (35) ..., *Hanako wa* [<sub>CP</sub> [<sub>TP</sub> *sore ga naze (da) ka*]] *wakatte iru*.  
 Hanako TOP it NOM why is Q understand  
 ‘..., Hanako understands why it is (= why Taroo was scolded).’

The structure in (34), then, does not seem to be consistent with the sloppy interpretation of (33). Given this, Takahashi maintains the sluicing analysis and leaves the optional occurrence of *da* as a problem. I will come back to this issue in the following subsection.

### 2.3 Argument Ellipsis

The works introduced so far argued that Japanese has some of the elliptic constructions that are observed in English. This trend takes a sharp turn with the proposal of argument ellipsis by Oku (1998) and Kim (1999). They both show that there are examples with elided arguments that cannot be analyzed as instances of V-stranding VP-ellipsis. I will briefly introduce their arguments and then discuss the supporting evidence presented in Saito (2004), Shinohara (2004), and Takahashi (2008).

Oku (1998) first shows that not only null objects but also null subjects allow sloppy interpretation. One of his examples is given in (36).

- (36) a. *Hanako wa* [<sub>CP</sub> [<sub>TP</sub> *zibun no teian ga saiyoosareru*]  
           Hanako TOP           self GEN proposal NOM adopt.PASS.PRS  
           *to*] *omotte iru.*  
           COMP think  
           ‘Hanako thinks that her proposal will be adopted.’
- b. *Taroo-mo* [<sub>CP</sub> [<sub>TP</sub> [*e*] *saiyoosareru*] *to*] *omotte iru.*  
           Taroo-also                   adopt.PASS.PRS COMP think  
           ‘Taroo also thinks that her/his proposal will be adopted.’

As a subject cannot be elided with VP-ellipsis, Oku concludes that Japanese allows subjects to be directly elided.

He then argues that null objects can be generated in the same way, that is, that any argument can be directly elided. A relevant example is shown in (37).

- (37) *Hanako wa teinei ni zibun no genkoo o minaosita.*  
       Hanako TOP carefully self GEN manuscript ACC look.over.PST  
       *Demo Taroo wa minaosanakatta.*  
       but Taroo TOP look.over.not.PST  
       ‘Hanako looked over her manuscript carefully. But Taroo didn’t look over her/his manuscript.’

The second sentence is missing the object. If the object is elided by VP-ellipsis, the sentence should have the interpretation that Taroo did not go over his manuscript

carefully because the VP-internal adverb *teinei ni* ‘carefully’ occurs in the first sentence. The English example in (38) illustrates this.

(38) *Mary looked over her manuscript carefully, but John didn’t.*

But the second sentence in (37) only has the sloppy reading that Taroo did not look over his manuscript at all. This raises doubts concerning the VP-ellipsis analysis. Oku then proposes that the sloppy interpretation derives not from VP-ellipsis but from the ellipsis of the object.

Kim (1999) reaches the same conclusion for Korean and Japanese on independent grounds. One of his arguments is based on the double-accusative construction in Korean, illustrated in (39).

(39) a. *Mike nun James lul tali lul ketechassta.*

Mike TOP James ACC leg ACC kicked

‘Mike kicked James on the leg.’

b. *\*Mike nun tali lul James lul ketechassta.*

Mike TOP leg ACC James ACC kicked

As shown in (39b), the accusative phrase that expresses a body part cannot precede the accusative phrase that refers to a person. Given this, Kim observes that the first accusative phrase can be elided and receive sloppy interpretation as in (40b).

(40) a. *Jerry nun caki uy ai lul phal ul ttayliessta.*

Jerry TOP self GEN child ACC arm ACC hit

‘Jerry hit his child on the arm.’

b. *Kulena Sally nun [e] tali lul ttayliessta.*

but Sally TOP leg ACC hit

‘But Sally hit his/her child on the leg.’

If VP-ellipsis is applied in (40b), *tali lul* ‘leg ACC’ should also be elided as it cannot precede the elided DP. Hence, the example cannot be derived by VP-ellipsis. Kim, like Oku (1998), concludes that arguments can be elided directly.<sup>5</sup>

<sup>5</sup> The Japanese counterpart of (39a) is degraded as the language does not allow two accusative phrases in a single clause. (See, for example, Harada 1973 and Kuroda 1988 for detailed discussion on this point.) However, the relevant contrast and interpretation obtain in the language as well. The Japanese counterpart of (39b) is hopeless and that of (40b) allows sloppy interpretation. Hence, Kim’s (1999) argument carries over to Japanese.

Saito (2004) points out that the argument ellipsis hypothesis provides a straightforward solution to the problem with Japanese sluicing noted at the end of the preceding subsection. Recall that, as Takahashi (1994) acknowledges, the sluicing analysis fails to account for the optional occurrence of the copula *da* ‘is’ in (33), repeated below as (41).

- (41) *Taroo wa* [<sub>CP</sub> *naze zibun ga sikarareta ka*] *wakatte inai*  
 Taroo TOP why self NOM scold.PASS.PST Q understand.not  
*ga, Hanako wa* [<sub>CP</sub> *naze da ka*] *wakatte iru.*  
 though Hanako TOP why is Q understand  
 ‘Though Taroo doesn’t understand why he was scolded, Hanako understands why he/she was scolded.’

If the second embedded CP has the structure in (42), there is no position for the copula.

- (42) [<sub>CP</sub> *naze<sub>i</sub>* [<sub>C'</sub> [<sub>TP</sub> ~~*zibun-ga t<sub>i</sub> sikarareta*~~] *ka*]]

It was noted in subsequent works such as Nishiyama, Whitman and Yi (1996) that the optional presence of the copula suggests that the elliptic structure derives from a cleft sentence. Then, the second clause in (41), with sloppy interpretation, will be as in (43) when it is fully spelled out.

- (43) *Hanako wa* [<sub>CP</sub> [<sub>TP</sub> [<sub>CP</sub> *Op<sub>i</sub>* [<sub>C'</sub> [<sub>TP</sub> *zibun ga t<sub>i</sub> sikarareta*] *no*]]  
 Hanako TOP self NOM scold.PASS.PST COMP  
*ga naze<sub>i</sub> (da)*] *ka*] *wakatte iru.*  
 NOM why is Q understand  
 Lit. ‘Hanako understands why it is that self was scolded.’

As indicated, the copula is indeed optional in cleft sentences.<sup>6</sup>

Nishiyama, Whitman and Yi (1996) present independent evidence for this approach. They point out that the remnant need not be a *wh*-phrase, as shown in (44b).

- (44) a. *Taroo ga dareka kara tegami o uketotta ga,*  
 Taroo NOM someone from letter ACC received though  
*boku wa* [<sub>CP</sub> *dare kara ka*] *wakaranai.*  
 I TOP who from Q know.not  
 ‘Taroo received a letter from someone, but I don’t know from whom.’

<sup>6</sup> See Hoji (1990) and Murasugi (1991) for detailed discussion of clefts in Japanese.



- (47) *Hanako wa* [<sub>CP</sub> [<sub>TP</sub> [<sub>CP</sub> *Op<sub>i</sub>* [<sub>EC</sub> [<sub>TP</sub> *zibun ga t<sub>i</sub> sikarareta*] *no*]]] *ga*  
 Hanako TOP self NOM scold.PASS.PST COMP NOM  
*naze<sub>i</sub> (da)] ka*] *wakatte iru.*  
 why is Q understand  
 Lit. 'Hanako understands why it is that self was scolded.'

As there is no *pro* subject and the example is derived by ellipsis, sloppy interpretation is expected. The “sluicing” phenomenon, then, provides additional evidence for argument ellipsis.

Another piece of supporting evidence for argument ellipsis is presented in Shinohara (2004) and Takahashi (2008). One of Takahashi's examples is given in (48) with slight modification.

- (48) a. *Zyosi no dareka ga hotondo no sensei o sonkeisite iru.*  
 female GEN someone NOM almost.all GEN teacher ACC respect  
 'Some girl has respect for most of the teachers.'  
 b. *Dansi no dareka mo [e] sonkeisite iru.*  
 male GEN someone also respect  
 'Some boy also has respect for them/most of the teachers.'

The null object in (48b) can be interpreted as a pronoun, that is, as those teachers that a girl has respect for. If the object is an overt pronoun, *karera o* 'they ACC', this is the only possible interpretation. Takahashi points out that (48b) has another reading. The sentence can mean that a boy has respect for most of the teachers, and in this case, the teachers need not coincide with those that a girl respects. This, Takahashi argues, is expected if (48b) can be derived with argument ellipsis as in (49).

- (49) *Dansi no dareka mo hotondo no sensei o sonkeisite iru.*  
 male GEN someone also almost.all GEN teacher ACC respect  
 'Some boy also has respect for most of the teachers.'

A similar example with a null subject is shown in (50).

- (50) a. *San-nin-izyoo no gakusei ga Taiwan e itta.*  
 three-person-more.than GEN student NOM Taiwan to went  
 'More than three students went to Taiwan.'  
 b. *[e] Oranda e mo itta.*  
 Holland to also went  
 'They/more than three students also went to Holland.'

(50b) has the interpretation that more than three students went to Holland, in addition to the reading that those students who went to Taiwan also went to Holland.

As discussed in this subsection, argument ellipsis was initially proposed by Oku (1998) and Kim (1999) as an alternative to V-stranding VP-ellipsis. If the proposal in Saito (2004) is correct, it accounts for Takahashi's (1994) "sluicing" examples as well. Hence, there is no clear evidence at this point that Japanese has VP-ellipsis or sluicing. At the same time, the discussion in this section does not show that Japanese does not have sluicing. I will introduce Takita's (2012) new argument for sluicing in the following section.

### 3 Descriptive Issues

Interesting issues have been raised by several papers, some sympathetic and others critical to the proposals introduced in the preceding section. I will consider some of them in this section. Hoji (1998) presents evidence against Otani and Whitman's (1991) proposal on VP-ellipsis, and argues that the relevant examples can be analyzed with *pro*. I will discuss this in Section 3.1, where I point out a similarity in distribution between elided arguments and *pro*. In Section 3.2, I will consider Funakoshi's (2012) evidence against argument ellipsis and for V-stranding VP-ellipsis. The issue to be taken up there is whether elements that form operator-variable chains are subject to argument ellipsis. Finally, in Section 3.3, I will briefly discuss Takita's (2012) argument for sluicing and Watanabe's (2010) argument for N'-ellipsis that strands classifier phrases.

#### 3.1 Argument Ellipsis and *pro*

Hoji (1998) presents an argument against VP-ellipsis, which applies to argument ellipsis as well. Among his crucial examples is (51).

- (51) a. *Subete no nihonzinhuuhu ga betubetu no gakusei*  
 all GEN Japanese.couple NOM separate GEN student  
 'Every Japanese couple recommended different students.'  
*o suisensita.*  
 ACC recommended  
 'Every Japanese couple recommended different students.'
- b. *Subete no amerikazinhuhu mo [e] suisensita.*  
 all GEN American.couple also recommended  
 'Every American couple also recommended them.'

(51a) is many-ways ambiguous, and one possible reading is that for each Japanese couple, the wife and the husband recommended different students. What Hoji points out is that (51b) with a null object lacks the parallel interpretation. That is, (51b) cannot mean that for each American couple, the wife and the husband recommended different students. This is unexpected if (51b) can be derived with VP-ellipsis. The English counterpart of (51b) with VP-ellipsis indeed has this reading, as shown in (52b).

(52) a. *Every Japanese couple recommended different students.*

b. *Every American couple did, too.*

(51b) raises an interesting question for argument ellipsis as well. If the example can be derived with an elided object as in (53), we would expect it to have the missing interpretation.

(53) *Subete no amerikazinhuuu mo betubetu no gakusei o*  
 all GEN American.couple also separate GEN student ACC  
*suisensita.*  
 recommended

Having argued against VP-ellipsis, Hoji (1998) goes on to consider why examples like (54b) can have sloppy interpretation.

- (54) a. *Subete no itinensei ga zibun no booru o ketta.*  
 all GEN freshman NOM self GEN ball ACC kicked  
 ‘Every freshman kicked her/his own ball.’
- b. *Subete no ninensei mo [e] ketta.*  
 all GEN sophomore also kicked  
 ‘Every sophomore also kicked her/his own ball.’

Here, Hoji suggests that the sloppy reading of (54b) is only apparent. More specifically, he suggests that the null object is *pro* that stands for the indefinite *booru* ‘a ball’. Then, the precise meaning of (54b) is that every sophomore kicked a ball. This is consistent with and can depict a situation where every sophomore kicked her/his own ball. Hoji argues that the preceding discourse provides the appropriate context to make it plausible that the ball that each sophomore kicked is her/his own.

It is argued in Saito (2003, 2007) that Hoji’s (1998) analysis of (54) cannot be maintained as such. For example, the analysis faces a problem when the second sentence contains negation. Let us consider the simpler example in (55).



- (55) a. *Taroo wa zibun no kuruma o aratta.*  
 Taroo TOP self GEN car ACC washed  
 'Taroo washed his car.'
- b. *Demo Hanako wa [e] arawanakatta.*  
 but Hanako TOP wash.not.PST  
 'But Hanako didn't wash it/her car.'

(55b) clearly allows sloppy reading in addition to strict reading; it can mean that Hanako did not wash her car. Thus, the sentence can be true when Hanako washed Taroo's car but not her own. The indefinite *pro* analysis fails to account for this because the following example only means that Hanako did not wash any car at all:

- (56) *Hanako wa kuruma o arawanakatta.*  
 Hanako TOP car ACC wash.not.PST  
 'Hanako didn't wash a car.'

Thus, (55) shows that the indefinite *pro* analysis, at least in the form proposed in Hoji (1998), is not a viable alternative to argument ellipsis.

Yet, the relation between *pro* and argument ellipsis is an important topic that needs to be pursued further. First, it is clear from examples like (57) that *pro* occurs in Japanese independently of argument ellipsis.

- (57) Context: Hanako is looking for her stapler.  
 Taroo: [e] *soko ni aru yo.*  
 there at is PART  
 'It is there!'

Further, the distributions of *pro* and elided arguments seem to be identical. Let us first consider the distribution of *pro* by looking at its occurrence in relative clauses. In response to Kuno's (1973) observation that Japanese relatives do not exhibit island effects, Perlmutter (1972) argued that this is because a relative gap in Japanese need not be produced by movement but can be a *pro*. According to this analysis, Kuno's example in (58) is analyzed with a *pro* in the most deeply embedded subject position bound by the relative head, *sinsi* 'gentleman'.

- (58) [<sub>DP</sub> [<sub>TP</sub> [<sub>DP</sub> [<sub>TP</sub> *pro*<sub>i</sub> *kite iru*] *yoohuku*] *ga* *yogorete iru*] *sinsi*<sub>i</sub>]  
 wearing.is clothes NOM dirty.is gentleman  
 Lit. 'the gentleman who the clothes that he is wearing is dirty'

Murasugi (1991) examines the distribution of *pro*, based on Perlmutter's analysis, and shows that *pro* can occur in the positions of locative and temporal phrases, in addition to argument positions, but not in positions of reason and manner phrases.<sup>8</sup> Some relevant examples are shown in (59).

- (59) a. [DP [TP *Hanako ga* [DP [TP (*sore<sub>i</sub> o* *motte iru*] *hito*] *o*  
           Hanako NOM           it   ACC have       person ACC  
           *sagasite iru*] *kisyoo<sub>i</sub>bon<sub>i</sub>*]  
           looking.for.is rare.book  
           Lit. 'the rare book that Hanako is looking for a person who has it'
- b. [DP [TP *Hanako ga* [DP [TP (*soko<sub>i</sub> ni* *sunde iru*] *hito*] *o*  
           Hanako NOM           there in live       person ACC  
           *sitte iru*] *mati<sub>i</sub>*]  
           know   town  
           Lit. 'the town that Hanako knows a person who lives there'
- c. [DP [TP *Hanako ga* [DP [TP *\*(sore<sub>i</sub> de)* *kubi-ni natta*] *hito*]  
           Hanako NOM           it   for fired.was   person  
           *o sitte iru*] *riyuu<sub>i</sub>*]  
           ACC know   reason  
           Lit. 'the reason that Hanako knows a person who was fired for it'

These examples are all grammatical with an overt resumptive pronoun. In (59a–b), *pro* can be substituted for the overt pronoun, but not in (59c).

It was already shown that subjects and objects can be elided with argument ellipsis. (60) shows that argument ellipsis applies to locative phrases as well.

- (60) a. *Taroo wa [zibun no oya no ie ni] sunde iru.*  
           Taroo TOP self GEN parent GEN house in live  
           'Taroo lives in his parents' house.'
- b. *Demo Hanako wa [e] sunde inai.*  
           but Hanako TOP live.not  
           'But Hanako doesn't live there/in her parents' house.'

<sup>8</sup> Given this, Murasugi (1991) concludes that *pro* occurs only in argument positions in a broad sense, on the assumption that locative and temporal phrases can be arguments of the event predicate. In the subsequent sections, I will use the expression 'argument positions' for 'argument positions in a broad sense' when there is no possibility of misunderstanding.

(60b) allows sloppy interpretation, which indicates that the locative phrase, *zibun no oya no ie ni* ‘self GEN parent GEN house in’ can be elided. If the pronoun, *soko ni* ‘there in’, is substituted for the null locative in (60b), the sloppy reading disappears. On the other hand, (61) indicates that a reason phrase cannot be elided.

- (61) a. *Watasi wa* [<sub>CP</sub> *Taroo ga zibun no sippai de*  
 I TOP Taroo NOM self GEN mistake for  
 ‘I hear that Taroo was fired because of his own mistake.’  
*kubi-ni natta to*] *kiite iru.*  
 fired.was COMP hear  
 ‘I hear that Taroo was fired because of his own mistake.’
- b. *Demo* [<sub>CP</sub> *Hanako ga* (\*[e]) *kubi-ni natta to*] *wa kiite inai.*  
 but Hanako NOM fired.was COMP TOP hear.not  
 ‘But I haven’t heard that Hanako was fired.’

(61b) simply means that I have not heard that Hanako was fired. As the embedded clause cannot be construed with ‘for Taroo’s mistake’ (strict reading) or with ‘for Hanako’s mistake’ (sloppy reading), the example shows that a reason phrase cannot be expressed as *pro* or be elided.<sup>9</sup>

The discussion above suggests that the distributions of *pro* and elided arguments are identical. If this is indeed the case, it calls for an explanation. One possibility is that elided arguments are *pro*, as Hoji (1998) proposed. I will speculate on an alternative possibility in the following section. But I will first consider Hoji’s important example in (51), together with other similar examples, in the following subsection.

### 3.2 The Non-Applicability of Argument Ellipsis to Operators and Variables

Funakoshi (2012, 2013) argues against argument ellipsis in favor of V-stranding VP-ellipsis. As his evidence shares certain similarities with Hoji’s (51), I will discuss his argument first.

(62) is the example Funakoshi (2012) presents as evidence for V-stranding VP-ellipsis.

- (62) a. *Taroo wa Hanako to dake asob-e-ru.*  
 Taroo TOP Hanako with only play-can-PRS  
 ‘Taroo can play only with Hanako.’ (only > can)

<sup>9</sup> Examples like (37), discussed by Oku (1998), show that a manner phrase cannot be elided or be *pro*. This is consistent with the generalization that argument ellipsis and *pro* exhibit the same distribution.

- b. \*Ziroo-mo [e] asob-e-ru.  
 Ziroo-also play-can-PRS  
 Intended ‘Ziroo also can play only with Hanako.’

In (62a), *Hanako to dake* ‘only with Hanako’ takes scope over *-e* ‘can’. (See Shibata 2013 for detailed discussion on the scope properties of *dake* ‘only’.) (62b) indicates that the PP cannot be elided in this context. This, Funakoshi argues, follows if null complements are produced by V-stranding VP-ellipsis. He first hypothesizes that the PP, *Hanako to dake*, moves overtly to the specifier position of FocusP above *vP*, as in (63).

- (63) Ziroo mo [<sub>FocusP</sub> [*Hanako to dake*] [<sub>vP</sub> *t<sub>PP</sub> t<sub>V</sub>*]] asob-e-ru.  
 Ziroo also Hanako with only play-can-PRS

This accounts for the fact that it takes scope over *-e* ‘can’. Since the PP moved out of the *vP* to be elided, (62b) fails to be generated. If the *vP* in (63) is elided, only traces disappear as *V* also moved out of the *vP*.

Although Funakoshi (2012) assumes that argument ellipsis should allow *Hanako to dake* in (63) to be elided and presents (62) as evidence against it, I think sufficient evidence has been accumulated in support of argument ellipsis as illustrated in the preceding section. Then, the question is why argument ellipsis does not apply to the PP in (63). It is Funakoshi’s insight that the PP forms an operator-variable chain as it takes scope over *-e* ‘can’. It seems then that argument ellipsis does not apply to items that form operator-variable chains.

Funakoshi (2013) presents additional examples as further evidence for V-stranding VP-ellipsis. One of them is shown in (64).

- (64) a. *Taroo wa supeingo ka huransugo o hanasanai.*  
 Taroo TOP Spanish or French ACC speak.not  
 ‘Taroo doesn’t speak both Spanish and French.’ (or > not)
- b. *Hanako wa supeingo ka huransugo o hanasu ga,*  
 Hanako TOP Spanish or French ACC speak though  
*Taroo wa [e] hanasanai.*  
 Taroo TOP speak.not  
 ‘Though Hanako speaks Spanish or French, Taroo speaks neither.’ (not > or)

As discussed in Goro (2007) in detail, Japanese disjunctive phrases with *ka* ‘or’ are positive polarity items and take scope over negation, unlike their English counterparts with *or*. Thus, (64a) is interpreted as in (65).

(65)  $[\exists x: x = \text{Spanish or } x = \text{French}]$  Taroo does not speak  $x$

Funakoshi (2013) makes an extremely interesting observation that when the disjunctive phrase in (64a) is apparently elided as in (64b), its scope relation with negation reverses. He goes on to point out that the reading (64b) has is expected when the null object is *pro*, roughly meaning ‘those two languages’. Then the remaining question is why argument ellipsis does not apply to the disjunctive phrase and yield its wide scope reading over negation. His analysis is that the disjunctive phrase moves out of  $vP$  to take scope over negation, and hence, cannot be elided by VP-ellipsis. As the disjunctive phrase is interpreted as in (65), this is another instance that indicates that an item that forms an operator-variable chain is not subject to argument ellipsis.

There are a number of other cases that lead to the same conclusion. One is the well-known fact that interrogative *wh*-phrases resist argument ellipsis. (66) illustrates this.

(66) a.  $[_{CP} [_{TP} \text{Dare ga Haiderabaad e itta}] \text{ka}] \text{ sitte imasu ka.}$   
           who NOM Hyderabad to went Q know Q  
           ‘Do you know who went to Hyderabad?’

b. *Iie. \*Demo*  $[_{CP} [_{TP} [e] \text{Siena e itta}] \text{ka}] \text{ nara sitte imasu.}$   
           no but Siena to went Q if know  
           Intended ‘No. But I know the answer if the question is who went to Siena.’

This falls under the generalization if Japanese *wh*-phrases are interrogative operators as argued in Lasnik and Saito (1984), for example. Hoji’s (1998) example in (51) also seems to instantiate the generalization. A simpler example in (67) suffices to illustrate this point.

(67) a. *Taroo to Hanako ga betubetu no gakusei o suisensita.*  
           Taroo and Hanako NOM separate GEN student ACC recommended  
           ‘Taroo and Hanako recommended different students.’

b. *\*Ziroo to Akiko mo [e] suisensita.*  
           Ziroo and Akiko also recommended  
           Intended ‘Ziroo and Akiko also recommended different students.’

The LF of (67b) would be roughly as in (68).<sup>10</sup>

<sup>10</sup> See Carlson (1987) for the semantics of *same* and *different*. He argues that *different*, in its internal reading, implies distinct eventualities. Hence, (68) has two sentences, one with *Ziroo* and the other with *Akiko* as the subject.

- (68) [ $\exists x, y: x, y$  students and  $x \neq y$ ] Ziroo recommended  $x$  and Akiko recommended  $y$

If *betubetu no gakusei* ‘separate GEN student’ forms an operator-variable relation in this way, it is not surprising that it cannot be elided.

The discussion so far suggests that argument ellipsis does not apply to a phrase that forms an operator-variable chain.<sup>11</sup> In the remainder of this subsection, I will argue that this follows if elided arguments are interpreted by LF-copying as proposed in Oku (1998) and Shinohara (2006).

Let me first introduce Shinohara’s argument for the LF-copying analysis. She first notes that a complement CP can be elided as expected, as shown in (69).

- (69) a. *Hanako wa* [<sub>CP</sub> [<sub>TP</sub> *zibun no teian ga saiyosareru*]  
Hanako TOP self GEN proposal NOM adopt.PASS.PRS  
*to*] *omotte iru ga*, *Taroo wa* [<sub>CP</sub> *e*] *omotte inai*.  
COMP think though Taroo TOP think.not  
‘Though Hanako thinks that her proposal will be accepted, Taroo doesn’t think that it/his proposal will be.’
- b. *Taroo ga* [<sub>CP</sub> [<sub>TP</sub> *Hanako ga sono hon o katta*] *to*]  
Taroo NOM Hanako NOM that book ACC bought COMP  
*itta si Ziroo mo* [<sub>CP</sub> *e*] *itta*.  
said and Ziroo also said  
‘Taroo said that Hanako bought the book, and Ziroo also said that she bought it.’

Then, she points out that scrambling of an element out of the target CP blocks argument ellipsis. Her examples are given in (70).

- (70) a. \**[Hon o]<sub>i</sub> Taroo wa* [<sub>CP</sub> [<sub>TP</sub> *Hanako ga t<sub>i</sub> katta*] *to*]  
book ACC Taroo TOP Hanako NOM bought COMP  
*itta si, [zassi o]<sub>j</sub> Ziroo wa* [<sub>CP</sub> *e*] *itta*.  
said and magazine ACC Ziroo TOP said  
Intended ‘Taroo said that Hanako bought a book, and Ziroo said that she bought a magazine.’

<sup>11</sup> Takahashi’s (2008) example (48) from Section 2.3 shows that quantified DPs such as *hotondo no sensei* ‘most teachers’ can be elided. This indicates that those DPs need not be subject to QR, a conclusion drawn by Takahashi on independent grounds. See Takahashi (2008) for discussion on the elidability of quantified DPs as well as important observations on the parallelism constraint imposed on argument ellipsis.

- b. \*[*Sono hon o*]<sub>i</sub> *Taroo wa* [<sub>CP</sub> [<sub>TP</sub> *Hanako ga t<sub>i</sub> katta*]  
 that book ACC Taroo TOP Hanako NOM bought  
*to*] *itta si*, [*sono hon o*]<sub>j</sub> *Ziroo mo* [<sub>CP</sub> *e*] *itta*.  
 COMP said and that book ACC Ziroo TOP said  
 Intended ‘Taroo said that Hanako bought the book, and Ziroo also said that  
 she bought it.’

This is surprising, Shinohara states, if PF deletion is responsible for argument ellipsis. (71) shows that nothing blocks PF-deletion to derive the ungrammatical (70b).

- (71) [*Sono hon o*]<sub>i</sub> *Taroo wa* [<sub>CP</sub> [<sub>TP</sub> *Hanako ga t<sub>i</sub> katta*]  
 that book ACC Taroo TOP Hanako NOM bought COMP said and  
 [*sono hon o*]<sub>j</sub> *Ziroo mo* [<sub>CP</sub> [<sub>TP</sub> ~~*Hanako ga t<sub>i</sub> katta*~~]  
 that book ACC Ziroo TOP Hanako NOM bought COMP said

Another fact Shinohara (2006) observes is that the source of the ungrammaticality of (70b), for example, is not the scrambling in the first conjunct but that in the second, which contains the ellipsis site. Thus, (72), with scrambling in the first conjunct, is perfectly grammatical.

- (72) [*Sono hon o*]<sub>i</sub> *Taroo wa* [<sub>CP</sub> [<sub>TP</sub> *Hanako ga t<sub>i</sub> katta*]  
 that book ACC Taroo TOP Hanako NOM bought COMP  
*itta si*, *Ziroo mo* [<sub>CP</sub> *e*] *itta*.  
 said and Ziroo TOP said  
 ‘Taroo said that Hanako bought the book, and Ziroo also said that she bought it.’

This is an interesting example because the elided CP is not identical to its antecedent as shown in (73).

- (73) [*Sono hon o*]<sub>i</sub> *Taroo wa* [<sub>CP</sub> [<sub>TP</sub> *Hanako ga t<sub>i</sub> katta*]  
 that book ACC Taroo TOP Hanako NOM bought COMP said  
*si*, *Ziroo-mo* [<sub>CP</sub> [<sub>TP</sub> ~~*Hanako ga sono hon o katta*~~]  
 and Ziroo-TOP Hanako NOM that book ACC bought COMP said

Shinohara (2006), then, argues that (70) and (72) constitute evidence that argument ellipsis is interpreted by LF-copying. LF-copying is a process that copies an LF object from the preceding discourse into an ellipsis site. (See Williams 1977 for an LF copying analysis of VP-ellipsis and Chung, Ladusaw and McCloskey 1995 for an LF copying analysis of sluicing.) In (70b), for example, the LF of the embedded CP in the first conjunct is copied into the embedded CP position in the second conjunct.

Here, it is argued in Saito (1989) and Oka (1991), among others, that long-distance scrambling is semantically-vacuous and is subject to total reconstruction at LF. The contrast between (74b) and (75b) is the evidence Oka (1991) presents for the hypothesis.

- (74) a. *Dareka ga daremo o sonkeisite iru.*  
 someone NOM everyone ACC respect  
 ‘Someone respects everyone.’ (someone > everyone)
- b. [*Daremo o*]<sub>i</sub> *dareka ga t<sub>i</sub> sonkeisite iru.*  
 everyone ACC someone NOM respect  
 ‘Someone respects everyone.’ (everyone > someone OK)
- (75) a. *Dareka ga* [<sub>CP</sub> [<sub>TP</sub> *Taroo ga daremo o sonkeisite iru*]  
 someone NOM Taroo NOM everyone ACC respect  
*to*] *itta.*  
 COMP said  
 ‘Someone said that Taroo respects everyone.’ (someone > everyone)
- b. [*Daremo o*]<sub>i</sub> *dareka ga* [<sub>CP</sub> [<sub>TP</sub> *Taroo ga t<sub>i</sub> sonkeisite iru*]  
 everyone ACC someone NOM Taroo NOM respect  
*to*] *itta.*  
 COMP said  
 ‘Someone said that Taroo respects everyone.’ (someone > everyone)

As Japanese is a scope-rigid language, the strongly preferred reading of (74a) is the one in which the subject takes wide scope over the object. It was demonstrated by Kuroda (1971) that clause-internal scrambling of the object as in (74b) allows the object to take wide scope. What Oka (1991) points out is that long scrambling of the object as in (75b) lacks this effect on scope relations. Thus, the scrambled object, *daremo o* ‘everyone ACC’, cannot take scope over the matrix subject despite the fact that it is in a position that c-commands the subject. He argues that this follows if the scrambled object is reconstructed at LF to a position within the CP it originated from.

Let us now consider the LF-copying analysis of (70b), repeated below as (76), with this background.

- (76)\*[*Sono hon o*]<sub>i</sub> *Taroo wa* [<sub>CP</sub> [<sub>TP</sub> *Hanako ga t<sub>i</sub> katta*] *to*]  
 that book ACC Taroo TOP Hanako NOM bought COMP  
*itta si, [sono hon o]<sub>j</sub> Ziroo mo* [<sub>CP</sub> *e*] *itta.*  
 said and that book ACC Ziroo TOP said  
 Intended ‘Taroo said that Hanako bought the book, and Ziroo also said that she bought it.’



*Sono hon o* ‘that book ACC’ in the first conjunct, by hypothesis, is reconstructed to a position within the embedded CP at LF. If the reconstruction site is the object position, the LF of the embedded CP will be as in (77).

- (77) [<sub>CP</sub> [<sub>TP</sub> *Hanako ga sono hon o katta*] *to*]  
       Hanako NOM that book ACC bought COMP  
       ‘that Hanako bought the book’

When this CP is copied into the ellipsis site in the second conjunct, (78) obtains.

- (78) [*sono hon o*]<sub>j</sub> *Ziroo mo* [<sub>CP</sub> [<sub>TP</sub> *Hanako ga sono hon o*  
       that book ACC Ziroo also Hanako NOM that book ACC  
       *katta*] *to*] *itta*  
       bought COMP said  
       Lit. ‘the book, Ziroo said that Hanako bought the book.’

This is illicit as it contains two instances of *sono hon o* ‘that book ACC’, and the first fails to receive a theta-role.

Note that if (77) is copied into the ellipsis site of (72), the result is well formed as shown in (79).

- (79) *Ziroo mo* [<sub>CP</sub> [<sub>TP</sub> *Hanako ga sono hon o katta*] *to*] *itta*  
       Ziroo also Hanako NOM that book ACC bought COMP said  
       ‘Ziroo said that Hanako bought the book.’

Thus, the LF-copy analysis, Shinohara (2006) argues, correctly accounts for the ungrammaticality of (70) as well as the grammaticality of (72).

Given this LF-copy analysis, it follows that an item that forms an operator-variable chain is not subject to argument ellipsis. Recall that argument ellipsis applies only to arguments and locative/temporal phrases. Then, LF-copying can insert phrases only in those positions. Let us consider how LF-copying applies to (66), repeated below as (80).

- (80) a. [<sub>CP</sub> [<sub>TP</sub> *Dare ga Haiderabaado e itta*] *ka*] *sitte imasu ka*.  
       who NOM Hyderabad to went Q know Q  
       ‘Do you know who went to Hyderabad?’  
       b. *Iie. \*Demo* [<sub>CP</sub> [<sub>TP</sub> [*e*] *Siena e itta*] *ka*] *nara sitte imasu*.  
       no but Siena to went Q if know  
       Intended ‘No. But I know the answer if the question is who went to Siena.’

I assumed above that Japanese interrogative *wh*-phrases are operators. The assumption is more precisely that a *wh*-phrase is an operator and a variable at the same time and hence is interpreted at two positions, as illustrated with an English example in (81).<sup>12</sup>

- (81) a. *Who did Mary see?* (who = {[for which x: x a person], x})  
       b. {[for which x: x a person], x} Mary saw {[for which x: x a person], x}  
       c. {[for which x: x a person], x} Mary saw {[for which x: x a person], x}

The *wh*-movement in (81a) copies the *wh*-phrase at Spec, CP as in (81b). The operator part is interpreted at the landing site and the variable part at the initial site as in (81c).

When this is applied to (80a), the LF of the embedded CP is as in (82).

- (82) [for which x: x a person] x went to Hyderabad

If the operator is copied into the ellipsis site in the embedded CP in (80b), (83a) obtains.

- (83) a. [for which x: x a person] went to Hyderabad  
       b. x went to Hyderabad

This makes no sense as an operator occurs in an argument position. On the other hand, (83b) is derived if the variable *x* is copied into the subject position. As *x* is a free variable, this cannot be interpreted properly. Thus, LF-copying fails to produce a legitimate structure in (80b) precisely because the antecedent of ellipsis is an operator-variable chain.

This analysis extends to Funakoshi's (2012, 2013) examples in (62) and (64) as well as to examples like (67) discussed by Hoji (1998). I will illustrate this with (64), repeated below as (84).

- (84) a. *Taroo wa supeingo ka huransugo o hanasanai.*  
       Taroo TOP Spanish or French ACC speak.not  
       'Taroo doesn't speak both Spanish and French.' (or > not)  
       b. *Hanako wa supeingo ka huransugo o hanasu ga,*  
       Hanako TOP Spanish or French ACC speak though  
       *Taroo wa [e] hanasanai.*  
       Taroo TOP speak.not  
       'Though Hanako speaks Spanish or French, Taroo speaks neither.' (not > or)

<sup>12</sup> This is for a *wh*-phrase that moves to Spec, CP. I assume that a *wh*-phrase that is directly merged at Spec, CP and binds a resumptive pronoun receives interpretation only as an operator. It is this kind that serves as a remnant in sluicing under the LF copying analysis.

As noted above, the disjunctive phrase in (84a) takes scope over negation. Suppose then that a disjunctive phrase in a negative sentence must move as an operator in order to escape the scope of negation. In this case, the disjunctive phrase must be an operator and a variable at the same time just as in the case of *wh*-movement. The LF of the first clause in (84b), which does not contain negation, is as in (85a) or (85b).

- (85) a. Hanako speaks [Spanish or French]  
       b.  $\{\{\exists x: x = \text{Spanish or } x = \text{French}\}, x\}$   
           Hanako speaks  $\{\{\exists x: x = \text{Spanish or } x = \text{French}\}, x\}$

The object of (85a) cannot be copied into the ellipsis site in (84b) because the disjunctive phrase then falls within the scope of negation. Hence, only (85b) needs to be considered. (86a) obtains when the quantifier is copied into the ellipsis site, and (86b) when the variable is copied into the position.

- (86) a. Taroo does not speak  $[\exists x: x = \text{Spanish or } x = \text{French}]$   
       b. Taroo does not speak  $x$

Neither is a proper representation.

### 3.3 Further Issues with Sluicing and N'-ellipsis

I will discuss two more descriptive issues before I conclude this section, but without a definite conclusion. One concerns sluicing. It was shown in Section 2 that the examples that initially motivated VP-ellipsis and sluicing in Japanese can be re-analyzed as instances of argument ellipsis. This leaves us with no evidence for VP-ellipsis or sluicing in Japanese. But it does not show that sluicing, for example, does not exist in the language. Given this, Takita (2012) presents evidence that Japanese has sluicing in addition to argument ellipsis. I will first introduce his evidence. The second issue has to do with the position of classifier phrases in a nominal projection. Saito and Murasugi (1990) hypothesized that they are adjuncts, but Watanabe (2010) argues that they are specifiers and can be remnants with N'-ellipsis. I will briefly discuss this proposal in the latter part of this subsection.

Recall Saito's (2004) proposal to analyze examples like (87a) as instances of argument ellipsis applied to the subject of cleft sentence as in (87b).

- (87) a. *Taroo wa* [<sub>CP</sub> *naze zibun ga sikarareta ka*] *wakatte inai*  
       Taroo TOP why self NOM scold.PASS.PST Q understand.not  
       *ga, Hanako wa* [<sub>CP</sub> *naze (da) ka*] *wakatte iru.*  
       though Hanako TOP why is Q understand  
       'Though Taroo doesn't understand why he was scolded, Hanako understands why he/she was scolded.'

- b. *Hanako wa* [<sub>CP</sub> [<sub>TP</sub> [<sub>CP</sub> [<sub>TP</sub> [<sub>CP</sub> [<sub>TP</sub> *zibun ga t<sub>i</sub> sikarareta*]  
 Hanako TOP self NOM scold.PASS.PST  
*no*]] *ga naze<sub>i</sub> (da)*] *ka*] *wakatte iru*.  
 COMP NOM why is Q understand  
 Lit. ‘Hanako understands why it is that self was scolded.’

If the analysis is correct, (87a) no longer provides evidence for sluicing in Japanese. However, Takita (2012) presents similar examples that cannot be analyzed this way and argues that they do constitute evidence for sluicing. I will present his argument in a slightly modified form.

One of his examples is given in (88).

- (88) *Taroo wa* [<sub>CP</sub> [<sub>ModaIP</sub> *dokoka e ikoo*] *to*] *omotte iru*  
 Taroo TOP somewhere to go.will COMP think  
*ga*, [<sub>CP</sub> *doko e (??da) ka*] *mayotte iru*.  
 though where to is Q cannot.decide  
 ‘Though Taroo thinks that he will go somewhere, he cannot decide where.’

(88) differs from (87a) in one important respect. The first sentence of (88) has a control structure and the embedded clause lacks tense. Takita states that the copula *da* is illicit in (88), and it certainly makes the example degraded in contrast with (87a). The sentence with *da* roughly has the same status as (89) with an overt pronoun in the subject position.

- (89) ??..., [<sub>CP</sub> *sore ga doko e (da) ka*] *mayotte iru*.  
 it NOM where to is Q cannot.decide  
 ‘..., he cannot decide where it is.’

Then, (88) with *da* seems to have a *pro* subject.

The remaining question is why (88) is perfect without *da*. It cannot have a cleft structure as in (87) because *da* can always occur in a cleft sentence. In addition, the corresponding cleft sentence in this case is totally ungrammatical as shown in (90).

- (90) \*..., [<sub>CP</sub> [<sub>TP</sub> [<sub>CP</sub> *ikoo no*] *ga doko e (da)*] *ka*] *mayotte iru*.  
 will.go COMP NOM where to is Q cannot.decide  
 ‘..., he cannot decide where it is that he will go.’

This is because the complementizer *no*, which heads the CP subject in clefts, only takes a clausal complement with tense morphology, as shown by Matsumoto (2010), and *ikoo* ‘will go’ lacks tense. Takita (2012) concludes then that (88) without *da* should be analyzed as an example of sluicing as in (91).

- (91) ..., [<sub>CP</sub> [*doko* *e*]<sub>i</sub> [<sub>ModalP</sub> ~~*pro*~~-*t<sub>i</sub>* *ikoo*] *ka*] *mayotte iru*.  
           where to                      will.go Q    cannot.decide  
       ‘..., he cannot decide where (he will go).’

Takita (2012) provides an additional piece of evidence for his sluicing analysis. It was noted in the preceding section that for examples like (87), the remnant need not be a *wh*-phrase. Thus, (92) is perfectly grammatical.

- (92) *Taroo wa dokoka e itta ga, boku*  
       Taroo TOP somewhere to went though I  
       *wa* [<sub>CP</sub> *Tookyoo e ka(dooka)*] *siranai*.  
       TOP    Tokyo    to whether    know.not  
       ‘Taroo went somewhere, but I don’t know whether it is to Tokyo that he went.’

On the other hand, examples like (88) requires a *wh*-phrase as the remnant, as (93) shows.

- (93) ??*Taroo wa* [<sub>CP</sub> [<sub>ModalP</sub> *dokoka e ikoo*] *to*] *omotte iru ga*,  
       Taroo TOP                      somewhere to go.will COMP think    though  
       [<sub>CP</sub> *Tookyoo e ka(dooka)*] *mayotte iru*.  
       Tokyo    to whether    cannot.decide  
       ‘Though Taroo thinks that he will go somewhere, he cannot decide whether it is to Tokyo that he will go.’

This is precisely what is expected if (88) is an example of sluicing. As was discussed in Section 2, sluicing requires a *wh*-phrase in Spec, CP.

Based on this discussion, Takita (2012) concludes that the theoretical consequences that Takahashi (1994) draws can be maintained as such. In particular, Japanese must have optional *wh*-movement, that is, scrambling of a *wh*-phrase to its scope position in the language must count as *wh*-movement. Although further investigation is necessary to confirm Takita’s sluicing analysis, there is indirect evidence for it. It was argued in the preceding subsection that a *wh*-phrase cannot be elided by argument ellipsis because it is an interrogative operator. This analysis, if correct, reinforces the conclusion of Takahashi (1994) and Takita (2012). If a *wh*-phrase is an interrogative operator, its movement to the scope position should establish an operator-variable chain and count as *wh*-movement. And if Japanese has optional *wh*-movement, it is not surprising at all that it has sluicing.

Let us now turn to Watanabe’s (2010) proposal that classifier phrases occupy a specifier position in a nominal projection. As discussed in Section 2.1, Saito and Murasugi (1990) argued that classifier phrases are adjuncts because examples like (19d), repeated below as (94), are ungrammatical.

- (94) \**Taroo wa issyuukan ni san-satu no hon o yomu*  
 Taroo TOP one.week in three-volume GEN book ACC read  
*ga, Hanako wa [go-satu no \_\_\_] o yomu.*  
 though Hanako TOP five-volume GEN ACC read  
 'Though Taroo reads three books per week, Hanako reads five.'

If *go-satu no* 'five-volume GEN' is an adjunct, it cannot move to Spec, DP to create a legitimate configuration for N'-ellipsis. Watanabe points out that examples of this kind are grammatical without the genitive Case on the remnant, as exemplified in (95).

- (95) *Taroo wa [san-satu no hon] o kai, Hanako*  
 Taroo TOP three-volume GEN book ACC buy.and, Hanako  
*wa [go-satu \_\_\_] o katta.*  
 TOP five-volume ACC bought  
 'Taroo bought three books, and Hanako bought five.'

He argues then that the classifier phrase, *go-satu* 'five-volume', is in the specifier position of the Q(uantifier) head, as proposed in Watanabe (2006), and hence, licenses the ellipsis of the complement of Q.

Watanabe's proposal is that the structure of Japanese nominal phrases is richer than assumed in Saito and Murasugi (1990), and clearly has a number of important implications. At the same time, there seem to be a few issues that need to be addressed to confirm his conclusion. The first is whether the object of the second clause in (95) refers to books of certain quantity or to the quantity of books. It is known that the object refers to an amount in examples like (96).

- (96) *John weighs 150 lbs.*

If the object of the second clause in (95) simply refers to a quantity, then there is a possibility that nothing is elided. As far as I can see, it is not easy to tease apart those two readings. But examples of the following kind with mass nouns may provide some information:

- (97) a. *Taroo wa go-rittoru no biiru no soko o motte*  
 Taroo TOP five-liter GEN beer GEN bottom ACC holding  
*hakobi, Hanako wa roku-rittoru ??(no biiru) no soko*  
 carry.and Hanako TOP six-liter GEN beer GEN bottom  
*o motte hakonda.*  
 ACC holding carried  
 'Taroo held the bottom of five liters of beer and carried it, and Hanako held the bottom of six liters of beer and carried it.'

- b. *Taroo wa ni-rittoru no gyuunyuu no huta o ake,*  
 Taroo TOP two-liter GEN milk GEN cap ACC open.and  
*Hanako wa san-rittoru ??(no gyuunyuu) no huta o aketa.*  
 Hanako TOP three-liter GEN milk GEN cap ACC opened  
 ‘Taroo took off the cap of two liters of milk, and Hanako took off the cap  
 of three liters of milk.’

(97a) and (97b) are marginal at best with the omission of *biiru* ‘beer’ and *gyuunyuu* ‘milk’ respectively. It seems that this is because a quantity does not have a bottom or a cap. If this is the case, further investigation is necessary to establish that a classifier phrase can serve as a remnant for ellipsis.

The second issue has to do with the analysis of the genitive *no*. In the examples of N'-ellipsis considered in Saito and Murasugi (1990), the remnant in Spec, DP occurs with *no* as in (18b), repeated below as (98).

- (98) *Rooma no hakai wa [Kyoto no \_\_\_] yorimo hisan datta.*  
 Rome GEN destruction TOP Kyoto GEN than misery was  
 ‘Rome’s destruction was more miserable than Kyoto’s.’

On the other hand, according to Watanabe’s (2010) analysis, a classifier phrase in Spec, QP does not carry *no* when the complement of Q is elided, as can be seen in (95). This implies that *no* on arguments is different from that on classifier phrases.

Watanabe addresses this point and argues that *no* on arguments is Case whereas that on classifier phrases is a linker that is inserted only when an overt nominal projection follows. This accounts for the presence of *no* in the first clause and its absence in the second clause of (95). Watanabe presents a conceptual argument and a piece of empirical evidence for this proposal. First, according to the traditional Case theory, Case is required only for DP arguments. Hence, it is only natural to suppose that *no* on classifier phrases is something else. Secondly, there are examples like (99) where it is difficult to analyze *no* as Case.

- (99) *Taroo ga syuzinkoo no monogatari*  
 Taroo NOM hero Linker story  
 ‘a story in which Taroo is the hero’

One way to analyze this example is that the copula after *syuzinkoo* ‘hero’ is omitted and as a result, the noun happens to be directly followed by *monogatari* ‘story’. Watanabe argues that *no* as a linker is inserted in this case.

Although a uniform analysis of the prenominal *no* is pursued in Bedell (1972), Kitagawa and Ross (1982), and Murasugi (1991), among others, proposals have been made to distinguish its two types. For example, Okutsu (1974) discusses examples

similar to Watanabe's (99) and proposes that *no* in this case is the prenominal form of the copula *da* 'be, is'. His analysis is based on examples like those in (100).

- (100) a. [<sub>TP</sub> *Taroo ga kaityoo de aru*] *gakkai*  
           Taroo NOM president be be.PRS academic society  
           'an academic society of which Taroo is the president'
- b. \*<sub>[TP</sub> *Taroo ga kaityoo da*] *gakkai*  
           Taroo NOM president be academic society  
           Intended 'an academic society of which Taroo is the president'
- c. [<sub>TP</sub> *Taroo ga kaityoo no*] *gakkai*  
           Taroo NOM president be academic society  
           'an academic society of which Taroo is the president'

Okutsu first notes that the copula *da* cannot occur prenominally as shown in (100b). Since *no* is employed in this context as in (100c), he proposes that *da* is the conclusive form of the copula and its prenominal form is *no*. (100c) can be paraphrased as in (100a), which employs the preverbal form of the copula *de*. As the main predicate of the relative clause is not the copula but *aru* 'be/exist.PRS', no problem arises in this case.

Whether one pursues Okutsu's analysis or Watanabe's, a remaining issue is where the line should be drawn between genitive Case and the copula/linker. Let me illustrate the problem with PP arguments. The examples in (101) seem to be instances of N'-ellipsis with PP remnants.

- (101) a. [*Oya e no izon*] *wa yoi ga*,  
           parent on GEN dependence TOP good though  
           [*sensei e no* \_\_\_] *wa yokunai*.  
           teacher on GEN TOP good.not  
           'Dependence on parents is permissible, but dependence on teachers is not.'
- b. [*Taroo kara no sien*] *mo* [*Hanako kara no* \_\_\_]  
           Taroo from GEN support also Hanako from GEN  
           *mo kokorozuyokatta*.  
           also encouraging.PST  
           'Support from Taroo and support from Hanako were both encouraging.'

If these are indeed examples of N'-ellipsis, they show that PP arguments can move to Spec, DP and serve as remnants for N'-ellipsis. This implies that the *no* on those PPs is not the prenominal copula. If it were, those PPs should be relative clauses and should be unable to move to Spec, DP. Further, it is not a linker either because if it



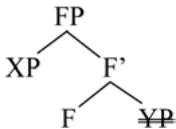
were, it should not appear on the PP remnants. On the contrary, *no* is required on these PP remnants. Then, the *no* on PP arguments should be genitive Case. Thus, the distribution of genitive *no* is wider than the simple version of the Case Filter, for example, predicts. The precise distribution of the genitive *no* needs to be examined and its explanation must be pursued further.

Although I will leave the questions raised in this subsection open, it should be clear that Takita's (2012) argument for sluicing and Watanabe's (2010) proposal on classifier phrases both may have important consequences. As noted above, if Japanese indeed has sluicing, then it must have *wh*-movement. Watanabe's proposal may lead to further understanding of the Japanese nominal structure and consequently of ellipsis within nominal projections.

## 4 Toward an Explanation

The discussion so far suggests that Japanese has argument ellipsis, N'-ellipsis, and also sluicing if Takita (2012) is correct. Explanation for these phenomena must be sought and the theoretical consequences must be investigated. In this section, I will first suggest an analysis for argument ellipsis and try to explain why it is observed in Japanese and Korean, but not, for example, in English. In the second part, I will raise the possibility to derive the generalization in (10), repeated below as (102), from Chomsky's (2013, 2014) labeling algorithm.

- (102) Ellipsis: The complement of a functional category F (D, C, or T) can be elided only when F has a specifier, as illustrated below.



The discussion in this section, like that in the preceding section, is exploratory. It raises more questions than it solves, but I hope it serves to clarify the kinds of theoretical issues that arise in the investigation of ellipsis in Japanese.

### 4.1 Argument Ellipsis and the (Absence of) $\phi$ -feature Agreement

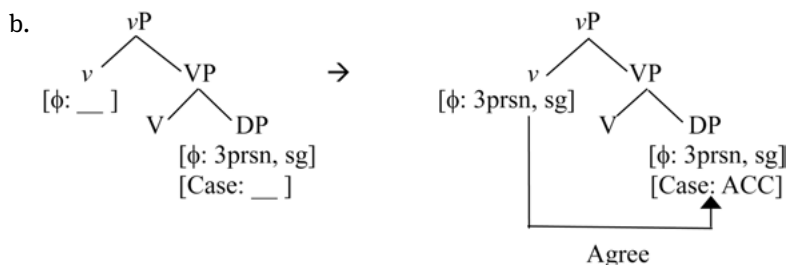
Argument ellipsis is observed in Japanese and Korean but not in English, as the contrast between (103) and (104) shows.

- (103) a. *Taroo wa* [<sub>DP</sub> *zibun no tomodati*] *o turete kita.*  
 Taroo TOP self GEN friend ACC brought  
 ‘Taroo brought his friend.’
- b. *Demo, Hanako wa* [<sub>DP</sub> *e*] *turete konakatta.*  
 but Hanako TOP bring.not.PST  
 ‘But Hanako didn’t bring her friend.’
- (104) a. *John brought* [<sub>DP</sub> *his friend*].
- b. \**But Mary didn’t bring* [<sub>DP</sub> *e*].

It is proposed in Saito (2007) that this difference is related to the presence/absence of  $\phi$ -feature agreement in those languages. In this subsection, I will briefly present this analysis as well as further issues it raises. As the analysis crucially assumes Chomsky’s (2000) proposal on  $\phi$ -feature and Case valuation, I will first briefly go over this proposal.

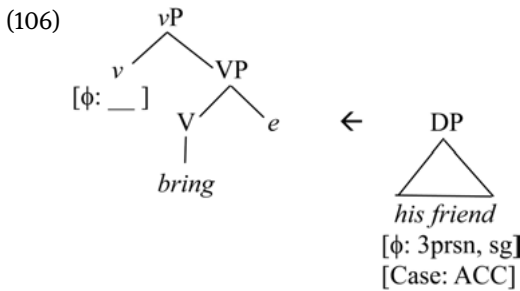
Chomsky (2000) maintains that Case is closely tied with  $\phi$ -feature agreement. For example, the subject provides the  $\phi$ -features of T (subject-verb agreement) and T specifies the Case of the subject as nominative.  $\phi$ -feature agreement is nothing but the occurrence of the  $\phi$ -features of a particular DP on a functional head. Then, it is necessary to specify how a functional head acquires  $\phi$ -features from a DP. Chomsky proposes that this is accomplished by Agree as illustrated in (105b) for the *v* in (105a).

- (105) a. *Mary saw him.*



*v* comes with  $\phi$ -features that need to be valued. It searches its domain for a value provider, and enters into Agree relation with the DP it finds as shown in the tree on the right hand. The Agree relation enables *v* to acquire the values for  $\phi$ -features, and as a reflection of this, the Case feature of the DP is valued as accusative. One condition that Chomsky imposes on the Agree relation is the activation condition, which states that both the probe (*v* in (105b)) and the goal (DP in (105b)) must have unvalued features. Then, a DP can supply  $\phi$ -feature values to functional heads until its Case feature is valued but not afterwards.

Shinohara's (2006) argument for the LF copying analysis of argument ellipsis was presented in the preceding section. Let us now consider how the analysis would apply to the English (104b), given Chomsky's (2000) proposal on  $\phi$ -feature agreement and Case. The DP *his friend* from the LF of (104a) is copied into the object position of (104b), as shown in (106).



As the DP is copied from the LF of (104a), its Case feature is already valued.<sup>13</sup> Then,  $v$  fails to enter into Agree relation with the copied DP because of the activation condition. Consequently, the  $\phi$ -features of  $v$  cannot be valued and the derivation crashes. This accounts for why argument ellipsis is impossible in English.

Then, how is it possible in Japanese and Korean? It has long been observed that there is no visible  $\phi$ -feature agreement in these languages, and there has been much work trying to deduce the properties of these languages on the premise that they lack  $\phi$ -feature agreement. Notably, Kuroda (1988) proposed that the main properties of Japanese such as multiple occurrences of Case, free word order, and the lack of obligatory *wh*-movement follow from the absence of obligatory agreement. Let us then try to extend this approach. If Japanese and Korean indeed lack (obligatory)  $\phi$ -feature agreement, then functional categories such as *T* and  $v$  do not (or need not) carry  $\phi$ -features that require valuation. To take a concrete example, the Japanese/Korean counterparts of (106) have (or can have)  $v$  without  $\phi$ -features. And in this case, nothing goes wrong with the insertion of an object whose Case feature is already valued. As  $v$  need not enter into Agree relation with the DP, the activation condition is irrelevant. Thus, Saito (2007) argues that Japanese and Korean allow argument ellipsis precisely because these languages lack  $\phi$ -feature agreement.<sup>14</sup>

This analysis, if correct, implies that there is a general correlation between argument ellipsis and the absence of  $\phi$ -feature agreement. This prediction has been examined by Daiko Takahashi and his colleagues, and an interim report is made in

<sup>13</sup> Case feature is uninterpretable. Hence, it is more likely that it is absent in LF and realized only in PF.

<sup>14</sup> Saito (2007) presents this as a consequence of the LF copying analysis of argument ellipsis. Takahashi (2014a), however, proposes a way to derive the same conclusion on the basis of the PF deletion analysis.

Takahashi (2014b). Here, I will briefly discuss the case study with Turkish first presented in Şener and Takahashi (2010).

Turkish allows null arguments in both subject and object positions, but exhibits only subject agreement. Sloppy interpretation is possible with null objects, as shown in (107).

- (107) a. *Can* [pro *anne-si*] *ni eleştir-di.*  
 John mother-3SG ACC criticize-PST  
 'John criticized his mother'
- b. *Mete-yse* \_\_\_\_ *öv-dü.*  
 Mete-however praise-PST  
 'Mete, however, praised her/his mother' (sloppy interpretation possible)

This indicates that argument ellipsis is possible for objects. On the other hand, (108) shows that a null subject of a finite clause resists sloppy interpretation.

- (108) a. *Can* [[pro *öneri-si*] *nin kabul ed-il-eceğ-i*] *ni düşün-üyor.*  
 John proposal-3SG GEN accept do-PASS-NM-3SG ACC think-PRS  
 'John thinks that his proposal will be accepted'
- b. *Aylin-se* [\_\_\_\_ *redded-il-eceğ-i*] *ni düşün-üyor.*  
 Eileen-however reject-PASS-NM-3SG ACC think-PRS  
 'Eileen, however, thinks that it will be rejected' (sloppy interpretation not possible)

Then, a null argument in this context must be *pro*.

Şener and Takahashi argue further that the contrast is not a subject-object asymmetry, but the presence/absence of  $\phi$ -feature agreement is the crucial factor. In order to show this, they examine subjects that do not participate in  $\phi$ -feature agreement. The ECM subject in (109) is an example of this.

- (109) a. *Pelin* [[pro *yeğen-i*] *ni lise ye başla-yacak*] *san-ıyor.*  
 Pelin niece-3SG ACC high.school DAT start-FUT think-PRS  
 'Pelin thinks her niece will start high school'
- b. *Suzan-sa* [\_\_\_\_ *ilkokul a başla-yacak*] *san-ıyor.*  
 Susan-however grade.school DAT start-FUT think-PRS  
 'Susan, however, thinks she/her niece will start grade school'  
 (sloppy interpretation possible)

As sloppy interpretation is possible in (109b), the example shows that argument ellipsis applies to ECM subjects as predicted. As discussed in Takahashi (2014), it is not always possible to check the prediction straightforwardly. But the basic facts in Turkish support the correlation between argument ellipsis and the absence of  $\phi$ -feature agreement.

At the same time, it should be noted that the analysis of Saito (2007) is by no means complete. Aside from the fact that it relies crucially on the activation condition, whose status can be questioned, there are two issues that need to be resolved. The first has to do with the distributional similarity of argument ellipsis and *pro*, discussed in Section 3.1. The second concerns the ellipsis of PP and CP arguments. I will briefly discuss them before I close this subsection.

As noted in Section 3.1, argument ellipsis applies to arguments and locative/temporal phrases and hence shows the same distribution as *pro*. Given this, a unified analysis of the two phenomena would be desirable. One possibility is that there is no argument ellipsis after all and the null arguments are uniformly *pro*, as proposed in Hoji (1998). A different possibility is suggested in Saito (2007). The LF copying analysis of argument ellipsis implies that material from the preceding discourse is available in the derivation of a sentence. Thus, in (103), repeated below as (110), *zibun no tomodati* ‘self GEN friend’ is copied from (110a) into the object position of (110b).

- (110) a. *Taroo wa* [<sub>DP</sub> *zibun no tomodati*] *o turete kita.*  
           Taroo TOP   self   GEN friend   ACC brought  
           ‘Taroo brought his friend.’
- b. *Demo, Hanako wa* [<sub>DP</sub> *e*] *turete konakatta.*  
           but   Hanako TOP           bring.not.PST  
           ‘But Hanako didn’t bring her friend.’

What Saito (2007) suggests is that *pro* as an LF object can always be copied into a sentence in the same way. The idea is that there is a set of discourse entities that can be used in a derivation, in addition to the LIs in the numeration, and the set includes LF objects from the prior discourse as well as *pro*. The same mechanism of LF copying, then, will be responsible for argument ellipsis and *pro*.

Although this unification of argument ellipsis and *pro* is merely a speculation at this point, it has one advantage. It has been noted that *pro* occurs in two totally different environments: it is licensed by rich agreement in languages such as Italian and Spanish and it appears freely in languages without  $\phi$ -feature agreement such as Japanese and Korean. The former environment makes sense as rich agreement provides the information that is conveyed by a pronoun. But it has been a mystery why the total absence of  $\phi$ -feature agreement makes the occurrence of *pro* possible. The approach suggested above provides an answer for this. *Pro*, as an LF object, must

lack unvalued features, and hence, cannot be copied into a position that serves as the target of Agree. Hence, it can only appear in the context where there is no  $\phi$ -feature agreement.

The second issue has to do with the ellipsis of PPs and CPs. (60), repeated below as (111), and (69a), repeated as (112), show that complement CPs and locative PPs can be elided respectively.

- (111) a. *Taroo wa [zibun no oya no ie ni] sunde iru.*  
 Taroo TOP self GEN parent GEN house in live  
 ‘Taroo lives in his parents’ house.’  
 b. *Demo Hanako wa [e] sunde inai.*  
 but Hanako TOP live.not  
 ‘But Hanako doesn’t live there/in her parents’ house.’
- (112) *Hanako wa [<sub>CP</sub> [<sub>TP</sub> zibun no teian ga saiyoosareru]*  
 Hanako TOP self GEN proposal NOM adopt.PASS.PRS  
*to] omotte iru ga, Taroo wa [<sub>CP</sub> e] omotte inai.*  
 COMP think though Taroo TOP think.not  
 ‘Though Hanako thinks that her proposal will be accepted, Taroo doesn’t think that it/his proposal will be.’

English contrasts with Japanese and Korean with respect to examples of this kind as well. Thus, the English counterpart of (112) is totally ungrammatical as shown in (113).

- (113) \**Mary thinks [<sub>CP</sub> that [<sub>TP</sub> her proposal will be accepted]], but John doesn’t think [<sub>CP</sub> e].*

The ungrammaticality of (113) poses a problem for the analysis presented above, as long as CPs do not participate in  $\phi$ -feature agreement. If a CP is not a target of any Agree relation, nothing should prevent its insertion in the ellipsis site of (113). It is conceivable that LF copying of an argument is a marked operation that becomes part of a grammar only with positive evidence. If the ellipsis of argument DPs serves as the positive evidence, a Japanese-speaking child will acquire argument ellipsis. On the other hand, an English-speaking child will never encounter the crucial data and argument ellipsis will not be part of her/his grammar. Although this is a possibility, a more principled account is desirable.

## 4.2 Deriving the Licensing Condition on N'-ellipsis, VP-ellipsis and Sluicing

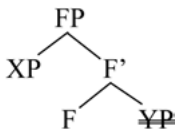
The preceding subsection was concerned with why argument ellipsis is possible in Japanese and Korean but not, for example, in English. The theory of ellipsis aims to explain in more general terms why only constituents of specified types can be elided and why ellipsis is possible only in specific configurations. For the former question, it seems that any maximal projection can in principle be elided. Argument ellipsis applies to DPs, CPs, and PPs. And if the approach outlined in the preceding subsection is on the right track, it is observed only in positions that do not participate in  $\phi$ -feature agreement for an independent reason. N'-ellipsis applies to the NP complement of D, VP-ellipsis to the vP complement of T, and sluicing to the TP complement of C. The targets of ellipsis in these cases are non-argument maximal projections. Then, under the LF copying analysis of ellipsis, it appears that maximal projections constitute coherent LF objects that can be used in a derivation of a sentence. One of the remaining questions is why adjuncts, like the reason phrase in (61), repeated below as (114), cannot be elided.

- (114) a. *Watasi wa* [<sub>CP</sub> *Taroo ga zibun no sippai de*  
 I TOP Taroo NOM self GEN mistake for  
*kubi-ni natta to*] *kiite iru.*  
 fired.was COMP hear  
 'I hear that Taroo was fired because of his own mistake.'
- b. *Demo* [<sub>CP</sub> *Hanako ga* (\*[e]) *kubi-ni natta to*] *wa kiite inai.*  
 but Hanako NOM fired.was COMP TOP hear.not  
 'But I haven't heard that Hanako was fired.'

I will leave this question, together with many others, for future research.

Outstanding with the second question is the generalization in (10) on N'-ellipsis, VP-ellipsis, and sluicing, which is repeated again in (115).

- (115) Ellipsis: The complement of a functional category F (D, C, or T) can be elided only when F has a specifier, as illustrated below.



This generalization, if correct, must be explained. As far as I know, Richards (2003) is the only work that attempts this. He proposes a modification of Kayne's (1994) Linear Correspondence Axiom and argues that the generalization follows from the

theory of linearization. In this subsection, I will speculate on an alternative approach, building on his insights. More specifically, I will consider the possibility of deriving (115) from the theory of labeling proposed in Chomsky (2014).

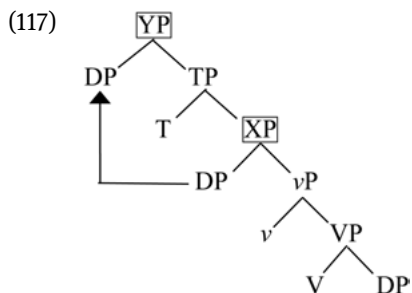
Richards (2003) assimilates (115) with the EPP. This makes sense as both demand that Spec positions be filled. On the other hand, Chomsky (2014) proposes to derive the EPP from the theory of labeling. It seems then only reasonable to try to extend this analysis to (115). But before getting into this discussion, I will briefly go over Chomsky's (2013) proposals on labeling.

Phrase structure is built with the basic and minimum operation Merge, which combines two elements into a constituent. Formally, Merge takes two elements,  $\alpha$  and  $\beta$ , and forms their set,  $\gamma = \{\alpha, \beta\}$ . Required for interpretation is the information on what sort of object  $\gamma$  is, that is, on  $\gamma$ 's label. For example,  $\gamma = \{\text{verb}, \text{noun}\}$  would be interpreted differently depending on whether  $\gamma$  is a verb phrase or a noun phrase. The way in which the label of the object formed by Merge is determined is called the labeling algorithm. Chomsky (2013) lists the three cases in (116) as the possible outcomes of Merge.

- (116) a.  $\gamma = \{H, \beta P\}$   
       b.  $\gamma = \{\alpha P, \beta P\}$   
       c.  $\gamma = \{H, H\}$

In (116a), Merge applies to a head and a phrase. This case is straightforward: As the search into  $\gamma$  directly yields the unique head  $H$ ,  $H$  provides the label for  $\gamma$ . On the other hand, (116b) and (116c) are problematic because there is no asymmetric relation between the elements of  $\gamma$ .

Chomsky considers the derivation of TP in order to examine how the label is determined when Merge applies to two phrases as in (116b).

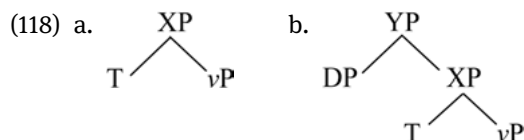


The derivation proceeds in a bottom-up fashion, and the structure in (116b) arises first when the external argument DP merges with  $vP$ . In this case, the DP eventually moves out of XP. Consequently,  $vP$  is the only element that XP properly contains,



and Chomsky proposes that  $vP$  provides the label of  $XP$  for this reason. Although the movement of the external argument  $DP$  enables  $XP$  to be labeled, it creates the structure of (116b) at the landing site when the  $DP$  internally merges with  $TP$ . Chomsky notes that this is a special configuration because the  $DP$  and (the label of)  $TP$  share the same set of  $\phi$ -features due to  $\phi$ -feature agreement. He proposes then that the label of  $YP$  is determined as  $\langle \phi, \phi \rangle$  on the basis of this feature sharing. Another instance of labeling by feature sharing is observed when a  $wh$ -phrase merges with a  $CP$  to assume its scope position. The  $wh$ -phrase and (the label of) the  $CP$  share a question feature, say,  $Q$ , and hence, the newly created constituent is labeled as  $\langle Q, Q \rangle$ .<sup>15</sup>

Chomsky (2014) extends this analysis to explain the EPP and the ECP effects. Here, I will go over his explanation for the EPP, which requires that  $T$  have a specifier. Chomsky assumes that the EPP does not hold in null subject languages like Italian and Spanish. This implies that the structure in (118a) is allowed in those languages but not in EPP languages, including English.



The labeling algorithm discussed so far allows this structure:  $T$  is the unique head in  $XP$  and hence determines the label of  $XP$ . The fact that (118a) is illicit in EPP languages suggests that  $T$  is defective in those languages. That is,  $T$  is weak so that it cannot provide a label as a head. Then,  $T$  must have a feature-sharing specifier as in (118b) so that the whole structure can be labeled. In this case,  $YP$  is labeled as  $\langle \phi, \phi \rangle$  due to the  $\phi$ -feature sharing. As far as I can see, the status of  $XP$  in (118b) is somewhat unclear. It is possible that it need not have a label because it is an “intermediate projection.” But Chomsky suggests that the feature sharing makes a defective (weak)  $T$  in EPP languages non-defective (strong). Then,  $T$  provides the label for  $XP$ . The main part of Chomsky’s (2013, 2014) proposal can be summarized as in (119).

- (119) a. In  $\gamma = \{H, \beta P\}$ ,  $H$  provides the label for  $\gamma$  if  $H$  is strong.  
 b. In  $\gamma = \{\alpha P, \beta P\}$ , if search into  $\alpha P$  and  $\beta P$  yields heads that share the feature  $f$ , then the label of  $\gamma$  is  $\langle f, f \rangle$ .

<sup>15</sup> Labeling by feature sharing provides an answer for why  $\phi$ -feature agreement exists in languages. That is,  $\phi$ -feature agreement is necessary so that a  $TP$ , for example, can be properly labeled. Then, a question arises with respect to labeling in languages like Japanese, which lack  $\phi$ -feature agreement. This problem is discussed with a possible solution in Saito (2014).

Let us now consider the generalization in (115) with this background. It states that a functional head requires a specifier when its complement is elided. Then, Chomsky's (2014) analysis of the EPP can be extended to these cases on the assumption that a functional head fails to provide a label without a specifier in the context of ellipsis. In the remainder of this section, I will suggest two approaches to pursue this.

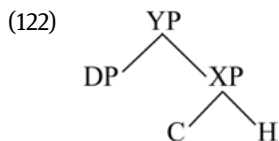
The first relies on another idea of Richards (2003). He proposes that the internal structure of an elided constituent is invisible and hence the constituent counts as a head for the purpose of linearization. Translating this idea into the LF copying analysis of ellipsis, it can be hypothesized that a constituent that enters the structure by LF copying counts as a head for the purpose of labeling. Then, the illicit case of sluicing in (9b), repeated in (120), is accounted for.

- (120) *\*John denied that he cheated, but I believe* [<sub>CP</sub> *that* [<sub>TP</sub> ~~*he cheated*~~]].

The CP with ellipsis has the structure {C, H} and hence fails to be labeled. The grammatical (7b), repeated in (121), also receives an account with a slight adjustment.

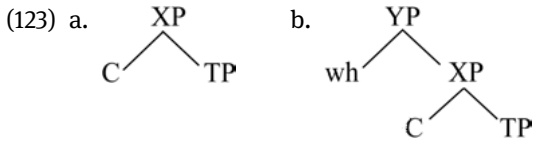
- (121) *John knows* [<sub>CP</sub> *which girl* [<sub>TP</sub> *Mary likes*]], *but he doesn't know* [<sub>CP</sub> *which boy* [<sub>TP</sub> ~~*she likes*~~]].

The CP with ellipsis has the structure in (122).



The search into XP yields two heads, C and H. On the assumption that both heads are visible in this situation, the feature sharing of C and (the label of) DP provides the label <Q, Q> for YP. I assume that XP need not be labeled, being an “intermediate projection,” or feature sharing picks out C as the provider of label for XP. This analysis extends to N'-ellipsis if there is an appropriate feature sharing between the genitive DP and the head D, possibly the feature [genitive].

There is another possibility that follows Chomsky's (2014) analysis of the EPP more closely. Chomsky's proposal was that T requires a specifier in EPP languages because T is weak and cannot provide a label by itself. Then, as functional heads require a specifier in the context of ellipsis, let us assume that all functional heads are weak except T in null subject languages. This yields the generalization in (115). Let us consider the sluicing examples in (120) and (121) again for illustration. (120) is ungrammatical because the CP with ellipsis has the structure in (123a) and XP fails to be labeled, C being weak.

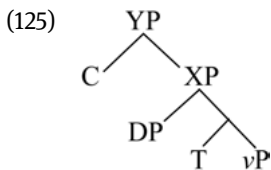


On the other hand, the CP in (121) is successfully labeled as illustrated in (123b). As there is a feature sharing of Q between the wh and C, YP is labeled as  $\langle Q, Q \rangle$ .

This analysis necessitates a reconsideration of simple examples like (124) without ellipsis.

(124) *John thinks* [<sub>CP</sub> *that* [<sub>TP</sub> *Mary solved the problem*]].

The embedded CP in this example has the structure in (123a). The example then must be distinguished from (120) with ellipsis. This can be achieved under the LF copying analysis of ellipsis if the embedded CP in (124) is labeled through feature sharing between C and T in the configuration in (125).



There are many possibilities for the relevant feature shared by C and T. For example, Chomsky (2008) proposes that unvalued features originate in phase heads, and T's  $\phi$ -features are inherited from C. Then, C and T may share  $\phi$ -features. For languages without  $\phi$ -feature agreement, it is possible that T inherits the ability to value nominative Case from C. It is also known that C and T have a close selectional relation. The C *that* selects for a finite TP whereas *for* selects for a non-finite TP. This may mean that C values the  $[\pm\text{finite}]$  feature of T. Here, I assume without choosing among these possibilities that C and T share the relevant feature *f* because it originates in C and T obtains it.

The next question to be addressed is how this feature sharing leads to the labeling of YP in (125). This becomes possible if the labeling algorithm is stated in the slightly different form in (126), which I believe is still consistent with the proposals in Chomsky (2014).

- (126) a. In  $\gamma = \{\alpha, \beta\}$ , if there is a unique head  $\alpha$  and  $\alpha$  is strong,  $\alpha$  provides the label for  $\gamma$ .
- b. Otherwise, search into  $\alpha$  and  $\beta$  in order to locate heads. If the yielded heads *a* and *b* share a feature *f* of a specified type, then the label of  $\gamma$  is  $\langle f, f \rangle$ .<sup>16</sup>

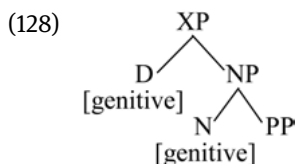
<sup>16</sup> Here I assume crucially that (126b) applies to cases where one of  $\alpha$  and  $\beta$  is a weak head and that *a* and *b*'s depth of embedding within  $\alpha$  and  $\beta$  need not be identical.

Given that C is weak, (126a) is inapplicable to YP in (125). Then, heads must be searched in C and XP, according to (126b). Search into C immediately yields C. Tacit in the discussion above is that when search encounters  $\{\alpha, \beta\}$  where  $\alpha$  and  $\beta$  are both phrases, it proceeds to look into both  $\alpha$  and  $\beta$ . Then, search into XP yields D and T. If either of D and T can count in this case, as assumed above, then YP can be labeled  $\langle f, f \rangle$  on the premise that C and T share this feature. Note that in the context of sluicing, XP is copied into the structure from the prior discourse. Hence, its T does not obtain the feature  $f$  from the C in the structure XP is copied into. As a result, there is no sharing of  $f$  between C and T, and YP fails to be labeled.

This line of analysis can be applied to the contrast in (127) with N'-ellipsis if D values a feature of N.

- (127) a.  $[_{DP} \text{ the } [_{NP} \text{ destruction of the city}]]$   
 b.  $*[_{DP} \text{ the } [_{NP} \text{ destruction of the city}]]$

It is proposed in Chomsky (1986b) that N assigns inherent genitive Case to its complements. Let us assume for concreteness that N inherits the genitive feature from D. Then, the structure of (127a) is as in (128).



(126b) applies for the labeling of XP because D, by hypothesis, is weak. The search into D and NP yields the heads D and N, and XP is labeled as  $\langle \text{genitive, genitive} \rangle$ . In the context of N'-ellipsis, NP is copied from the prior discourse. Consequently, the genitive feature of its head N is not inherited from the D, and feature sharing fails to obtain. In this case, labeling is possible only through the feature sharing of D and its specifier. And the desired feature sharing obtains if the [genitive] of the specifier is valued by D.

N'-ellipsis in Japanese can be analyzed in basically the same way. Recall that DPs and PPs within projections of N and D appear with genitive Case in the language. The relevant examples in (18) are repeated in (129) below.

- (129) a. *Hanako no Tookyoo de no kabu no torihiki*  
 Hanako GEN Tokyo in GEN stock GEN dealing  
 'Hanako's dealing of stocks in Tokyo'
- b. *Taroo no san-kai no mitimon de no Yooroppa*  
 Taroo GEN three-time GEN no.penny with GEN Europe  
*e no ryokoo*  
 to GEN trip  
 'Taroo's three trips to Europe with no money'

It was entertained in Section 2 that genitive in Japanese is a contextual Case that is inserted as in (130).

(130)  $[_\alpha \text{ DP/PP } \beta] \rightarrow [_\alpha \text{ DP/PP } \textit{no } \beta]$ , where  $\alpha$  and  $\beta$  are projections of N or D.

Here, it can be assumed that D has the feature to trigger genitive Case insertion and it is inherited by N. Then, there is a feature sharing between D and N. In the case of N'-ellipsis, the NP is copied from prior discourse and the head N already inherited the feature from a distinct D. Hence, there is no feature-sharing between D and N in this case.

The analysis just outlined predicts correctly that a weak T requires a specifier with or without the ellipsis of its complement. According to this analysis, C and D can appear without a specifier when and only when they are in feature sharing relation with the heads of their complements. Further, the feature sharing arises because C and D are phase heads that value the features of their complements or transfer features to them. This situation never arises with T as T is not a phase head. It follows then that T must always have a specifier so that “its projection” can be labeled through feature sharing between T and its specifier.

## 5 Conclusion

In this chapter, I first surveyed the arguments for N'-ellipsis, VP-ellipsis, sluicing, and argument ellipsis in Japanese. Argument ellipsis was proposed in place of VP-ellipsis in Oku (1998) and Kim (1999), and a supporting argument for it in Saito (2004) raised doubts on sluicing. Further descriptive issues on ellipsis in Japanese were discussed in Section 3. I introduced Hoji (1998) and Funakoshi's (2012, 2013) evidence against argument ellipsis and argued that it supports the LF copying analysis of argument ellipsis instead. Takita's (2012) new evidence for sluicing and Watanabe's (2010) extension of the N'-ellipsis analysis were also briefly discussed. I hope that further research that builds on these works will make the overall picture of elliptic phenomena in Japanese clearer.

Descriptive research and the effort to explain its results should proceed in parallel. In Section 4, I considered possible approaches to explain argument ellipsis and the descriptive condition on N'-ellipsis, VP-ellipsis, and sluicing. It is hypothesized in Minimalist research that there is a single structure-building operation, Merge, which freely combines two elements into a constituent. This operation is accompanied by the labeling algorithm, and  $\phi$ -feature agreement serves to make labeling possible in some cases. The hypotheses entertained here are that the distribution of argument ellipsis follows from the mechanism of  $\phi$ -feature agreement and that the condition on N'-ellipsis, VP-ellipsis, and sluicing is closely related to the labeling algorithm. As these ideas are still preliminary, I hope they will be developed, possibly into radically different proposals.

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## 20 Syntax and argument structure

### 1 Introduction

Contrasted with adjuncts, arguments serve as obligatory and integral elements of predicates. Their analysis has raised a number of typological and theoretical issues in the linguistics literature, encompassing morphology, semantics, and syntax as well as their interface areas. Although nouns, verbs, adjectives, and pre- and post-positions can all take arguments, the literature on a predicate's arguments and argument structure has focused primarily on arguments of verbs. As important as they are, arguments of a predicate are not always straightforwardly identified in a given language since the degree of obligatoriness of linguistic expressions varies across languages. Particularly in languages like Japanese that allow an extensive use of contextually recoverable zero pronouns (or noun ellipsis), a predicate's arguments are semantically present for interpretations but are not necessarily realized syntactically as overt noun phrases. In these languages, the identification of a predicate's arguments cannot rely solely on the obligatory presence of noun phrases in a surface string of words. This challenge, to some degree, applies to English, which allows no, or at least extremely limited use of, zero pronouns. Examples like *I've already eaten (lunch)*, *Have you been drinking (alcoholic beverages) again?*, and even *This tiger kills (people) when he is hungry* illustrate the point. The definition of a predicate's arguments for languages like Japanese may well rely more on semantic measures, such as Comrie's (1993: 907): "Thus our overall definition of argument would be: a phrase that is either obligatory given the choice of predicate, or whose meaning is a function of that of the predicate, or whose behavior is parallel to argument so defined" (emphasis added).

While a variety of assumptions have been made in organizing arguments of predicates, what seems to be of general agreement is that argument structure specifies the number and semantic types (or thematic roles) of the arguments with which a verb has a strong association, syntactically or semantically, given Comrie's definition above. In some approaches, furthermore, structured ordering or hierarchical organization among the arguments has been claimed to explain various syntactic behavior. (Bresnan and Kanerva 1989; Grimshaw 1990) The argument structures provided in (1), indicated within parentheses, display some of the standard representations of intransitive verbs (both unergative and unaccusative types), transitive verbs, and ditransitive verbs, as well as 'psych verbs' that pattern similar to transitive verbs in the number of arguments but differ from them in their semantic types.

- (1) a. intransitive – unergative: *warau* ‘laugh’ (agent)  
Akanboo *ga* *hazimete* *waratta*.  
 <agent>  
 baby NOM for.the.first.time laughed  
 ‘A baby laughed for the first time.’
- b. intransitive – unaccusative: *kowareru* ‘break’ (theme)  
Hurui tokei *ga* *kowareta*.  
 <theme>  
 old clock NOM broke  
 ‘An old clock broke.’
- c. transitive: *kaku* ‘write’ (agent, theme)  
Gakusei *ga* ii ronbun *o* *kaita*.  
 <agent> <theme>  
 student NOM good article ACC wrote  
 ‘A student wrote a good article.’
- d. ditransitive: *ageru* ‘give’ (agent, goal, theme)  
Hahaoya *ga* musume *ni* seetaa *o* *ageta*.  
 <agent> <goal> <theme>  
 mother NOM daughter DAT sweater ACC gave  
 ‘A mother gave her daughter a sweater.’
- e. “psych verb”: *odoroku* ‘be surprised’ (experiencer, theme/stimulus)  
Ryokoosya *ga* natu no atusa *ni* *odoroita*.  
 <experiencer> <theme>  
 travelers NOM summer GEN heat at surprised  
 ‘Travelers were surprised at the heat of the summer.’

The organization of argument structure, as exemplified in (1), is further motivated by the crosslinguistic generalization that a verb’s arguments are systematically mapped onto grammatical functions in syntactic configurations, and that the mapping is mediated by linking rules. A linking rule connects each member of argument structure and a syntactic position with regularity. In languages of the nominative-accusative case pattern, typically agent is projected onto the subject position, theme onto the object position, and so on; and they generally have their morphological correspondence of Case. The systematic nature of the linking between thematic roles and grammatical functions effectively accounts for the typological differences between the nominative-type and the ergative-type across the world’s languages. It further captures the differences within a single language between the two types of intransitive sentences – one with unergative verbs and the other with unaccusative verbs – while explaining the similar syntactic behavior of the sole argument of unaccusative sentences and the object argument of transitive sentences. The generalization over

the systematic linking patterns has been dealt with in various syntactic theories – ranging from the Universal Alignment Hypothesis in Relational Grammar (Perlmutter and Postal 1984), the Uniformity of Theta Assignment Hypothesis in Government and Binding Theory (Baker 1988), to the Lexical Mapping Principles in Lexical Functional Grammar (Bresnan and Kanerva 1989) – although the specific mechanism of linking rules may vary.

In describing the relationship between semantic representations of arguments and their syntactic realization, thematic roles alone are often considered to be insufficient to account for the complexity of the relationship. Instead, it is discussed in terms of a more elaborate structure that represents a verb's lexical meaning through lexical decomposition. In such cases, argument structure is understood to be linked to a lexically decomposed structure that is known under terms like lexical conceptual structure, lexical semantic structure, and event structure. (Hale and Keyser 1986a, 1986b, 1988; Jackendoff 1983, 1987, 1990; Kageyama 1996; Rappaport and Levin 1988) Examples of lexical conceptual structures of the verbs in (1) are given in (2).

- (2) a. conceptual structure: [x ACT]  
   |  
       argument structure: (agent)
- b. conceptual structure: [BECOME [x <state>]]  
   |  
       argument structure: (theme)
- c. conceptual structure: [[x ACT] CAUSE [BECOME [y <state>]]]  
   /  \  
       argument structure: (agent, theme)
- d. conceptual structure: [[x ACT] CAUSE [BECOME [y HAVE z]]]  
   /  \  
       argument structure: (agent, goal, theme)
- e. conceptual structure: [BECOME [x BE AT [PSYCH-STATE ABOUT y]]]<sup>1</sup>  
   /  \  
       argument structure: (experiencer, theme)

A number of issues have been addressed that directly and indirectly pertain to argument structure from descriptive, typological, and theoretical points of view (Alsina 2006; Bresnan and Kanerva 1989; Butt 2006; Comrie 1993; Duguine, Huidobro, and Madariaga 2010; Goldberg 1995; Grimshaw 1990; Harley 2010; Levin and Rappaport Hovav 1998, 2005; Sadler and Spencer 1998); and Japanese has contributed to the

<sup>1</sup> I follow Kageyama's (2007) notation of psych verbs.

exploration as is demonstrated by many published works. Touching on only a few of those issues here obviously does not do justice to the breadth and depth of this intriguing topic that a wide gamut of investigations have brought to light particularly over the past thirty-five years. Instead, the goal of this chapter is rather modest. In section 2 I will briefly discuss past and ongoing studies by focusing on two areas of argument structure research in which Japanese data have had significant bearing and have contributed to our general understanding of argument structure and its relation to syntax. The first of these deals with the process of Argument Transfer. The phenomenon has been observed with the light verb construction in Japanese, and a representative analysis outlined here supports a hierarchical organization of argument structure. The second case involves different types of double object verbs in Japanese that exhibit non-uniform patterns of syntactic realization of their arguments. This line of research suggests that various patterns of linking between argument structure and syntax, as observed within Japanese and in their cross-linguistic differences, can be explained by lexical semantic properties of the predicate as well as morphosyntax of the arguments. In section 3 we will turn our attention to theoretical approaches to argument structure, and examine to what extent Japanese data can serve as a testing ground for them. To this end I will discuss projectionist and constructionist approaches as two prevalent ways of viewing argument structure. They differ in answering the question of where in the grammar argument structure should be captured. I consider potential advantages and challenges these contrastive views posit vis-à-vis the Japanese data drawn from language acquisition and mimetic verbs.

## 2 Past and ongoing contribution

To illustrate the relevance that Japanese data have brought to the research on argument structure and related matters, this section singles out two previous and ongoing investigations: (i) the process of Argument Transfer and hierarchical organization of argument structure; and (ii) double object verbs and an analogy to dative alternation.

### 2.1 Argument Transfer and hierarchical organization of argument structure

In their work on the light verb construction, Grimshaw and Mester (1988) propose a process they termed Argument Transfer that operates over two sets of argument structures. This work spurred a series of subsequent investigations on argument structure within the context of the light verb construction and beyond. (Miyagawa 1989; Tsujimura 1990; Uchida and Nakayama 1993) The term “light verb” is not unique to Japanese, as is evidenced by discussions on the topic that precede or

coincide with Grimshaw and Mester's analysis of the Japanese construction (e.g. Jespersen 1954; Cattell 1984; Kearns 1998; to name a few). For instance, English examples of light verbs appear in phrases like *make a decision*, *take a break*, *give a hug*, *do a trick*, and *have a drink*, where the verbs *make*, *take*, *give*, *do*, and *have* are considered "light" in their semantic contribution while the accompanying nouns carry weight in interpreting what the phrases mean. In Japanese, the verb *suru*, which is most customarily translated as 'do' in isolation, can form complex predicates with lexemes of varying strata: (i) *torihiki-suru* ('business' [Yamato compound]-*suru*) 'trade', (ii) *kikoku-suru* ('return to the home country' [Sino-Japanese compound]-*suru*) 'return to the home country', (iii) *deeto-suru* ('dating' [English loanword]-*suru*) '(to) date', and (iv) *tin-suru* ('sound of bell' [mimetic]-*suru*) '(to) microwave'. These complex predicates are similar to the English examples above in that their interpretations primarily rely on the meaning of the lexeme to which *suru* is suffixed. Furthermore, at least in the first three types of Japanese complex predicates with *suru*, the accompanying nouns with Accusative Case on them may be morphologically separated from *suru* and serve as the verb's complement. (3a) and (3b) are minimally different in this respect without any significant difference in meaning.

- (3) a. *Musume ga dookyuusei to deeto-siteiru.*  
 my.daughter NOM classmate with dating-*suru*  
 'My daughter has been dating with her classmate.'
- b. *Musume ga dookyuusei to deeto o siteiru.*  
 my.daughter NOM classmate with dating ACC *suru*

The difference between (3a) and (3b) does not merely mean that (3a) is a noun-incorporation alternant of (3b). An interesting set of properties that is relevant to argument structure is associated with the pattern in (3b), and it is more notably demonstrated when more than one non-agent argument is involved (i.e. parallel to a ditransitive predicate). (4a) presents such a case.

- (4) a. *Sityoo ga yuusyosya ni hanataba o zootei-sita.*  
 mayor NOM winner DAT bouquet ACC gift-*suru*.PST  
 'The mayor gave the winner a bouquet of flowers.'
- b. \**Sityoo ga yuusyosya ni hanataba o zootei o sita.*  
 mayor NOM winner DAT bouquet ACC gift ACC *suru*.PST
- b'. (Sono) *hanataba wa sityoo ga yuusyosya ni zootei o sita.*  
 (that) bouquet TOP mayor NOM winner DAT gift ACC *suru*.PAST
- c. *Sityoo ga yuusyosya ni hanataba no zootei o sita.*  
 mayor NOM winner DAT bouquet GEN gift ACC *suru*.PST

- d. \**Yuusyoosya ni hanataba o sityoo no zootei o sita.*  
 winner DAT bouquet ACC mayor GEN gift ACC suru.PST
- e. \**Sityoo ga yuusyoosya e no hanataba no zootei o sita.*  
 mayor NOM winner to GEN bouquet GEN gift ACC suru.PST
- f. \**Sityoo ga hanataba o yuusyoosya e no zootei o sita.*  
 mayor NOM bouquet ACC winner to GEN gift ACC suru.PST

Unlike the complex predicate in (4a), the verb in (4b) is the free-standing *suru*, but the three event participants – *sityoo* ‘mayor’, *yuusyoosya* ‘winner’, and *hanataba* ‘a bouquet of flowers’ – are entities required by the Sino-Japanese noun, *zootei* ‘gift’. That is, the mayor is the agent, the winner is the recipient, and a bouquet of flowers is the theme of the event of giving. In contrast, *suru* does not have any semantic or thematic contribution, hence “light”. Grimshaw and Mester’s (1988) proposal attempts to explain this difference between the predicative noun and the light verb by claiming that the noun has an argument structure that consists of three arguments: agent, goal, and theme. In contrast, the light verb *suru* has an empty argument structure, and the arguments belonging to the noun can be moved to the light verb’s empty argument structure by the process of Argument Transfer. The light verb, however, has the ability to assign Accusative Case on its own, ensuring the case assignment on the predicative noun, as in (3b) and (4b). The interaction of the two sets of argument structure involved in (4b) mediated by Argument Transfer is illustrated in (5), following Grimshaw and Mester’s notation.

- (5) a. *zootei* (agent, goal, theme)  
 b. *suru* ( ) <acc>  
 c. *zootei* ( ) + *suru* (agent, goal, theme) <acc>

Once all the members of *zootei*’s argument structure are transferred to the argument structure of *suru*, they are projected onto the syntax and each of the arguments receives case assignment as verbal arguments: the agent argument, *sityoo* ‘mayor’ with Nominative, the goal argument, *yuusyoosya* ‘winner’ with Dative, and the theme argument *hanataba* ‘bouquet’ with Accusative. At the same time, the light verb assigns Accusative Case to the noun *zootei* ‘gift’. The ungrammatical status of (4b), however, is attributed to an independent reason, i.e. the Double *O* Constraint (Harada 1973; Poser 1981), which blocks two occurrences of Accusative Case –*o* within a single clause. The effect of the Double *O* Constraint is shown by the contrast between (4b) and (4b’). In (4b’) the theme argument, (*sono*) *hanataba* ‘(that) bouquet’

is topicalized with the Topic marker, *-wa*. Since there are no longer two NPs that are both marked with *-o*, the sentence is acceptable (Sells 1989).<sup>2</sup>

Argument Transfer does not require that the predicative noun's argument structure be emptied, with all the arguments transferred to the argument structure of the light verb. (4c), for example, demonstrates a partial transfer in which the agent and goal arguments, but not the theme argument, are transferred. The theme argument remains in the argument structure of *zootei* 'gift', and it also remains within the noun in its syntactic projection, as is reflected by the Genitive Case *-no* on *hanataba* 'bouquet'. The schematic representations are given in (6).

- (6) a. *zootei* (agent, goal, theme)  
       b. *suru* (     ) <acc>  
       c. *zootei* (theme) + *suru* (agent, goal) <acc>

Argument Transfer, however, imposes constraints on how many and which arguments can and should be transferred. The agent argument is always required to be transferred, as is illustrated in the ungrammatical (4d), where the agent, *sityoo* 'mayor', remains in the argument structure of *zootei* 'gift' and its syntactic projection is marked with the Genitive Case *-no*. Furthermore, at least one more argument in addition to the agent role must be transferred. (4e) is ungrammatical because only the agent argument participates in Argument Transfer, resulting in the goal and theme arguments being left in the argument structure of the predicative noun and marked with the Genitive Case.<sup>3</sup> (4b') and (4c), on the other hand, follow the constraint: in (4b') all of the noun's arguments are completely transferred to the argument structure of the light verb; and in (4c) the agent and goal arguments stay in the noun's argument structure while the theme argument is transferred to *suru*'s argument structure.

Finally, the ungrammaticality of (4f) addresses the issue of prominence among the members of argument structure. (4f) follows the constraint that the agent and one additional argument (theme) be transferred, but nevertheless the process yields

<sup>2</sup> Sells (1989) demonstrates in an example similar to (4b') that in addition to the topicalization of the theme argument, placing the theme argument in a position that is not adjacent to the predicative noun would also derive an acceptable sentence even though it would end up with two NPs with *-o*. The example in (i) – a slightly modified sentence of (4b') – indeed seems to be more acceptable although it still violates the Double *O* Constraint.

(i) *Hanataba o sityoo ga yuusyoosya ni zootei o sita.*  
     bouquet ACC mayor NOM winner DAT gift ACC suru.PST

<sup>3</sup> In (4e) the goal argument, *yuusyoosya* 'winner', is expected to appear as *yuusyoosya-ni-no* 'winner-DAT-GEN', but the juxtaposition of *-ni-no* is independently excluded on morphological grounds. Whenever the sequence of *-ni-no* is expected, it is invariably replaced by *-e-no*.

an ungrammatical outcome. The situation in (4f) contrasts with that in (4c) regarding the condition on the number of arguments to be transferred. The contrast between (4c) and (4f) led Grimshaw and Mester to argue that argument structure is hierarchically organized, and Argument Transfer takes place in the order of prominence among thematic roles. The hierarchical structure they propose is (Agent/Source (Goal (Theme))), where the outermost – Agent/Source – is the highest in prominence, and Argument Transfer is applied in the order of prominence.<sup>4</sup> (4c) follows this order. On the other hand, in (4f) the least prominent theme argument is transferred without the goal argument also being transferred. Since goal is higher in prominence than theme, the Argument Transfer in this sentence violates the hierarchical order among the arguments.

The discussion of Argument Transfer in the light verb construction sheds important light on research regarding the general architecture of argument structure as it is relevant to the way in which a predicate's arguments are projected onto syntax. The arguments that belong to the predicative nouns in the light verb construction can have various syntactic realizations in a non-arbitrary manner, and the systematic pattern reflects the degree of prominence among the arguments. The hierarchical organization of arguments that encodes relative prominence among them and the formal machinery of Argument Transfer together provide a mechanism that accounts for which syntactic patterns of argument realization are possible and which are not. The data drawn from the light verb construction account for the specific phenomenon internal to Japanese. At the same time, they further confirm that the hierarchically organized argument structure, rather than a linearly ordered list of thematic roles, makes it possible for arguments to be projected onto syntax in a systematic and predictable fashion.<sup>5</sup>

## 2.2 Double object verbs and analogy of the dative alternation

Double object verbs have crosslinguistically ignited a great deal of active discussion on the way in which their arguments are realized in syntax. Double object verbs in English, for one, are the subject of a rich body of literature from a variety of different theoretical perspectives particularly in relation to the dative alternation (or dative shift) as in (7).

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<sup>4</sup> In addition to the Argument Transfer phenomenon in the light verb construction in Japanese, Grimshaw (1990) further supports the hierarchical organization of argument structure by drawing on data from English compounds. The contrast between *gift-giving to children* and *\*child-giving of gifts* is claimed to follow the same hierarchy in that the theme is internal to the compound while the goal is outside in *gift-giving to children*; and the reverse pattern in *\*child-giving of gifts* leads to an ungrammatical status.

<sup>5</sup> A discussion of hierarchical organization of argument structure is also found in Ito (2007) in relation to ditransitive verbs in Japanese.



- (7) a. John gave Mary an expensive box of chocolates on her birthday.  
 b. John gave an expensive box of chocolates to Mary on her birthday.

The verb *give* has agent, goal, and theme arguments, and the last two can appear either in the double object construction in (7a) or in the PP dative construction as in (7b). Some view the two constructions as being independently generated, bearing a unique semantic property specific to each (e.g. Oehrle 1976), while others adopt a derivational view in which one construction is derived from the other (e.g. Chomsky 1955; Bowers 1981; Dryer 1987).<sup>6</sup> While Japanese apparently lacks a dative alternation of the same sort, straightforward translation equivalents of English double object verbs like *give* seem to correspond to the two variants in (8a) and (8b), which appear to be merely different in the order of the two NPs.

- (8) a. *Roozin ga kodomo ni omotya o ageta.*  
       old man NOM child DAT toy ACC gave  
       ‘An old man gave a child a toy.’  
 b. *Roozin ga omotya o kodomo ni ageta.*  
       old man NOM toy ACC child DAT gave

Hoji (1985), however, argues that (8a) – [subject-indirect object-direct object] – reflects the basic word order, from which (8b) is derived by scrambling the direct object, and that the indirect object (goal argument) and the direct object (theme argument) are hierarchically asymmetrical in syntax. To this end he uses quantifier scope to demonstrate the asymmetrical relations in (9a) and (9b).

- (9) a. *Roozin ga dareka ni dono omotya mo ageta.*  
       old man NOM someone DAT every toy also gave  
       ‘An old man gave someone every toy.’  
       some > every, \*every > some  
 b. *Roozin ga dono omotya<sub>i</sub> mo dareka ni t<sub>i</sub> ageta.*  
       some > every, every > some

The quantifier scope data like those in (9) have contributed to the now standard view that in the syntactic configuration, goal and theme arguments of double object verbs are hierarchically ordered in such a way that the goal NP (indirect object)

<sup>6</sup> Drawing on data that contain idioms, Larson (1988) demonstrates that some sentences in the PP dative construction are not derived from the double object construction, while Bruening (2001), Harley (1995, 2002), and Richards (2001) argue that some sentences in the double-object construction are not generated from the PP-dative construction.

asymmetrically c-commands the theme NP (direct object).<sup>7</sup> (cf. Harada and Larson 2009)

A question has been asked more directly regarding whether two alternating constructions parallel to those in (7) can be found in Japanese beyond the word order variation, from both language specific and crosslinguistic perspectives (e.g. Miyagawa 1994, 1997; Kishimoto 2001; Matsuoka 2003; Miyagawa and Tsujioka 2004; Ito 2007; Miyagawa 2012). In considering this question, it is important to note that not all the verbs that appear in the double object construction as in (7a) can allow for the PP dative construction as in (7b), and vice versa, as has been extensively surveyed in English (Levin 1993). A more fundamental question is to ask whether Japanese equivalents of double object verbs employ a structural dichotomy similar to the one in (7) that showcases an interesting array of characteristics concerning the way in which argument structure is mapped onto syntax. To this end, detailed examinations have been undertaken of the lexical semantic properties of individual verbs and fine-grained semantic analyses of the “goal” argument that is accompanied by *-ni* in its syntactic realization. Due to space limitation, I will summarize Kishimoto’s (2001) discussion, as his analysis provides arguably the most comprehensive investigation to illustrate how the lexical-semantic and syntactic properties of a verb’s arguments interact in relation to double object verbs in Japanese.

Kishimoto (2001) shows that there are two patterns in which argument structure of double object verbs can be mapped onto syntax. He further demonstrates that the two patterns emerge from the difference in the core meaning of the verb and the semantic nature of the arguments. The two patterns, taken from Kishimoto (2001: 51), are schematized in (10) and (11): (10) can be analogized to the double object construction and (11) to the PP dative construction in (7).

- (10) lexical representation: [ *x*     *causes*     *y*     *to possess*     *z* ]

argument structure:     causer                      recipient                      theme

grammatical category:     subject                      indirect object                      direct object

case marking:             nominative                      dative                      accusative

(11) lexical representation: [ *x*     *causes*     *y*     *to move toward*     *z* ]

argument structure:     causer                      goal                      theme

grammatical category:     subject                      to-dative                      direct object

case marking:             nominative                      dative                      accusative

Verbs of change of possession such as *ageru* ‘give’, *ataeru* ‘give’, *watasu* ‘hand’, and *wariateru* ‘assign’ take the pattern in (10), while verbs of transfer whose members include *okuru* ‘send’, *nageru* ‘throw’, and *hakobu* ‘carry’ take the pattern in (11). Each pattern of mapping is associated with a cluster of semantic, morphological, and syntactic characteristics, distinguishing the ways in which arguments are realized in syntax.<sup>8</sup>

First, the fundamental lexical difference between these two classes of verbs is “change of possession” vs. “change of location” (for verbs of transfer) as is described in the lexical representations of (10) and (11). This distinction leads to the more precise identification of the argument that corresponds to NP-*ni* as “recipient”<sup>9</sup> for change of possession verbs and “goal” for change of location verbs, rather than both uniformly subsumed under goal. This difference is reflected in the following entailments.

- (12) a. #*John wa Mary ni hon o ataeta ga, Mary wa*  
           John TOP Mary DAT book ACC give.PST but Mary TOP  
           *mada moratteinai.*  
           yet receive.NEG  
           ‘John gave Mary a book, but Mary has not gotten it yet.’  
           (Kishimoto 2001:40)
- b. *John wa Mary ni tegami o okutta ga, Mary wa*  
       John TOP Mary DAT letter ACC send.PST but Mary TOP  
       *mada uketotteinai.*  
       yet receive.NEG  
       ‘John sent a letter to Mary, but Mary has not received it yet.’  
       (Kishimoto 2001:39)

Second, the change in location, which is the core lexical meaning of verbs of transfer, suggests not only that the marking of *-ni* with the goal argument in (12b) is the directional postposition, but also that it can be replaced by another directional postposition like *-e* or *-made*. The substitution indeed derives the grammatical sentence in (12b) (*John wa Mary(no uti) e/made tegami o okutta* ‘John sent Mary(’s home) a letter’). However, the same outcome is not obtained in (12a) (*\*John wa Mary e/made*

<sup>8</sup> In addition to verbs of change of possession and verbs of transfer, Kishimoto further discusses a third class of verbs, i.e. verbs of transaction such as *uru* ‘sell’, *kasu* ‘rent’, and *harau* ‘pay’. He demonstrates that these verbs represent a “hybrid” type in that they denote both change of possession and change of location, sharing the properties of change of possession verbs and those of transfer verbs.

<sup>9</sup> The recipient argument is further constrained such that it has to be animate.

*hon o ataeta* ‘John gave Mary a book’). This difference means that *-ni* in (12a) represents the structural Dative case rather than a directional postposition. Third, the two non-subject arguments that are realized as Dative NP (Mary) and Accusative NP (book) in the syntactic configuration of (12a) can both be passivized, while only the argument that is projected as Accusative NP (letter) in (12b) can be passivized. This contrast confirms that the two seemingly identical occurrences of *-ni* in (12) should not be uniformly analyzed: it is the Dative case in (12a) and a postposition in (12b). Furthermore, it suggests that in Japanese, verbs of change of possession take the analogue of the double object construction on par with (7a), and verbs of transfer are projected to a structure parallel to the PP dative construction, analogous to (7b).

The close examination of verbs such as those in (10–11) makes it clear that double object verbs in Japanese cannot simply be put together as a uniform group. These verbs demonstrate that the general linking rule mentioned in the introductory section must be enriched far more than a single way of mapping thematic roles to grammatical functions and to syntactic positions. Double object verbs in Japanese are divided into at least two (and possibly more) types, and in order to elucidate the specific nature of the linking, analyses must refer to a variety of factors. Included in those factors are the contrast between the two lexical-semantic notions of change of possession and change of location, fine-grained semantic characterizations of broadly conceived goal arguments, and their morphological and syntactic repercussions. All of these factors jointly play significant roles in systematically projecting a predicate’s arguments onto syntax, as is demonstrated by double object verbs in Japanese, English, and beyond.<sup>10</sup> (Levin 2008, 2010; Rappaport Hovav and Levin 2008)

### 3 Projectionist vs. constructionist views of argument structure

Much of the discussion on argument structure in the early generative literature was built upon the core premise that lexical semantic properties of a verb play an important role in the syntactic structure. Under this premise, it has been understood that the relationship between the verb’s argument structure and the syntactic realization of the verb’s arguments are constrained by principles like the Universal Theta Assignment Hypothesis (Baker 1988). The emphasis on the relevance of verb meaning to

<sup>10</sup> A series of discussions is found in Miyagawa and Tsujioka (2004), Kishimoto (2008), and Tsujioka (2011), among others, in relation to the dative alternation counterpart in Japanese and its implications to the debate over base-generation vs. scrambling. Drawing on a different set of ditransitive verbs, Matsuoka (2003) discusses PASS-type verbs and SHOW-type verbs in Japanese and demonstrates that they exhibit non-uniform semantic and syntactic properties regarding the dative argument.

the syntactic realization of arguments remains as an assumption underlying what has come to be known as the lexicalist or projectionist view of argument structure. (Rappaport Hovav and Levin 1998; Beavers 2010) In this approach, multiple syntactic patterns in which a verb appears (e.g. the English verb *sweep* appearing in the intransitive frame, in the transitive frame, in the caused change of location pattern with a direct object and a PP complement, and in the resultative construction) are attributed to multiple meanings of the verb itself, each of which receives a unique lexical representation. The projectionist view is a predominant approach taken by researchers who have examined various aspects of argument structure and its relation to syntax in Japanese.

An alternative approach claims that multiple meanings do not emerge from the lexical properties of the verb but that syntactic structures in which a verb and its arguments appear take substantial responsibility for them.<sup>11</sup> (Borer 2005a, b) This view has been extensively elaborated on by those who argue that argument structure should be considered a construction, which is taken as a form-meaning(-function) pairing. (Goldberg 1995, 2006, 2013) According to the constructionists, specific syntactic realizations of arguments are taken to be part of argument structure constructions. For instance, the double object construction in (7a) constitutes one of such argument structure constructions that is represented by a pairing of the form, {Subj<sub>x</sub>, V, Obj<sub>1y</sub>, Obj<sub>2z</sub>}, with the meaning of “actual or potential transfer,” more specifically “x intends to cause y to receive z” (Goldberg 1992, 2013).<sup>12</sup>

The projectionist and constructionist views have provided analytical tools by which Japanese data are examined internal to the language and are interpreted for their crosslinguistic and typological implications. There seem to be several areas of investigations related to argument structure in Japanese that may offer a testing

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**11** To illustrate the relevance of syntactic structure, rather than the lexical properties of a verb, to interpretation, Borer (2005a) claims that native speakers can assign flexible but reasonable interpretations to seemingly uninterpretable sentences like (i) below such that *the red under* is the subject that corresponds to the agent of an action and *lunch* is the direct object that refers to an entity that is acted upon; and both are somehow relevant to the verb *five* even if the meaning of the verb is not identified.

(i) The red under fived lunch.

There are experimental works that illustrate the same point, in support of the constructionist view (e.g. Kaschak and Glenberg 2000; Kako 2006; Goldwater and Markman 2009).

**12** We focus on the two approaches to argument structure, the projectionist view and the constructionist view, but I might add another approach, the one from a functional point of view: Preferred Argument Structure, as proposed by Du Bois (2003). Preferred Argument Structure seems to contribute to our understanding of the architecture of argument structure, broadly conceived, by way of its relation to information structure. Preferred Argument Structure hypothesizes that “...in spontaneous discourse, certain configurations of arguments are systematically preferred over other grammatically possible alternatives” (Du Bois 2003:33). This functional approach has been adopted to analyze typological and language-specific patterns in which arguments are distributed or surface in discourse. (Du Bois, Kumpf, and Ashby (eds.) 2003)

ground for these approaches. In this section I will focus on two such topics, which may be interpreted to posit some challenges to each of the two views of argument structure.

### 3.1 Acquisition research

One of the research areas to which the projectionist and constructionist approaches to argument structure have significant implications is children's acquisition of verbs. The projectionist view is closely connected to the semantic bootstrapping hypothesis while the constructionist approach underlies the syntactic bootstrapping hypothesis. Semantic bootstrapping hypothesizes that the basic information children use in verb learning is a verb's semantic representation while syntactic bootstrapping claims that such information comes from syntactic structure. Thus, the basic premises of the semantic and syntactic bootstrapping hypotheses are respectively in line with the projectionist and constructionist views of argument structure. A number of experimental studies have been reported for English in support of each approach to verb acquisition (e.g. Pinker 1987; Gropen et al. 1991; Fisher et al. 1994; Niagles 1990), and they are in turn used to argue for or against the two approaches to argument structure. The contrast between the projectionist-based semantic bootstrapping and the constructionist-based syntactic bootstrapping has interesting implications for Japanese.

An example of experiments that supports the semantic bootstrapping hypothesis can be cited from Gropen et al. (1991). In English it has been noted that the verb *pour* as in *pour water in the glass* and *fill* as in *fill the glass with water* have different patterns in the syntactic realization of the verb's argument: with *pour* the direct object is "figure" while with *fill*, the direct object corresponds to "ground". Gropen et al. demonstrate that the two seemingly contrastive patterns of argument realizations in syntax that these verbs show can be explained by the uniform linking rule in (13).

- (13) Link the argument that is specified as "caused to change" in the main event of a verb's semantic representation to the grammatical object.  
(Gropen et al. 1991: 159)

The argument identified as "caused to change" is an "affected" entity, and Gropen et al. claim that the semantic notion of "affectedness" plays an important role in determining the way in which the verb's arguments are realized in syntax. In *pour water in the glass* and *fill the glass with water*, *water* and *the glass* in the respective phrases correspond to "caused to change", and are singled out as the affected argument. By associating figure-object (*water*) and ground-object (*the glass*) with the semantic notion of affectedness, two apparently different projection patterns are

accounted for by a unique linking rule. Experiments with adults and children that Gropen et al. conducted using nonsense verbs report that (i) the goal of motion is picked as the direct object when the goal undergoes change of state regardless of whether the change is of shape, color, or fullness, and (ii) when change of state (as an end result) and manner (as a means) jointly describe an event, the affected entity is realized as the direct object. This result is consistent with the linking rule of (13) and substantiates the view that syntactic realization of a verb's arguments is guided by its lexical properties. Note that this is consistent with the way in which the projectionists understand a verb's arguments to be realized in syntax.

Fisher et al. (1994) test the validity of the syntactic bootstrapping hypothesis by using a pairing of a transitive sentence and an intransitive sentence with nonsense verbs. Under the construction-based acquisition view, it is predicted that sentences in the transitive frame – e.g. *The rabbit is zilking the duck* – would be interpreted as causative events while those in the intransitive frame – e.g. *The duck is zilking* – would refer to non-causative events because the running assumption is that the meaning of causation is encoded in the form of transitivity. Fisher et al. tested this hypothesis with 3- and 4-year-old children. The subjects were shown several scenes that are relevant to nonsense verbs, and the scenes were presented with intransitive sentences – e.g. *The rabbit is pilking* – for one group of subjects and transitive sentences – e.g. *The rabbit is pilking the elephant* – for another group. Both groups then heard *Look, pilking*, followed by the question, *What does pilking mean?* The first group of subjects interpreted *pilk* as similar to *eat* while the second group guessed its meaning to be like *feed*. This suggests that the transitive frame is strongly correlated with causative events while the intransitive syntactic pattern is tied to non-causative events. The results of the experiment, thus, support the syntactic bootstrapping hypothesis that syntax provides information crucial to the verb's meaning. This conclusion is further in line with the constructionist view that the surface form of the verb's arguments (and other constituents) is directly linked to the way in which the verb is interpreted.

Acquisition data in Japanese shed an interesting light on the two bootstrapping hypotheses and in turn on the two approaches to argument structure. (Tsujimura 2007) The construction-based syntactic bootstrapping assumes that the syntax of the sentences that children hear from their caregivers, from which they deduce the verbs' meanings, provides complete information about the verbs' arguments. This assumption presents a challenge to languages like Japanese that are rich in noun ellipsis. Based on his earlier work on child-directed caregivers' sentences of the transitive pattern [NP-ga NP-o V] (Rispoli 1991), Rispoli (1995) cites that out of 226 such transitive sentences, those with both arguments present in them along with corresponding Case particles (i.e. the sentence type of (14i) below) amount to only 1%. A more comprehensive picture of the caregivers' transitive sentences is given in (14).

(14)	sentence type	frequency	percentage of total
a.	V	73	32
b.	NP V	103	46
c.	NP-o V	15	7
d.	NP-ga V	8	4
e.	NP-ga V (passive)	2	1
f.	NP NP V	18	8
g.	NP-ga NP	3	1
h.	NP NP-o V	2	1
i.	NP-ga NP-o V	2	1

(Rispoli 1995: 342)

The range of the syntactic patterns in which transitive verbs appear summarized in (14) indicates that the two most frequent patterns in (14a–b) give the least amount of formal information about the verb with respect to the number of its arguments. Note also that these most ubiquitous patterns lack morphological Case marking on the verb's arguments, although the morphological information provides important cues for relevant grammatical functions of the arguments. Interestingly, Rispoli notes that children do not make errors in the number of NPs that are required by verbs despite the syntactic indeterminacy of their input sentence patterns in (14), to which they are exposed during the acquisition process. On the one hand, Japanese input sentences with pervasive noun ellipsis and Case drop do not serve as a rich source for figuring out the nature of argument structure and semantic relations among arguments. On the other hand, despite the low degree of syntactic information, children seem to understand the verb's meaning correctly. These observations point to the conclusion that Japanese children cannot resort to the structural properties for the acquisition of verb meaning, and that the syntactic bootstrapping hypothesis and the constructionist view of argument structure are problematic in explaining Japanese children's verb acquisition.

This conclusion, however, may not directly lend support to the semantic bootstrapping hypothesis that shares with the projectionist view its premise on the lexical properties of a verb as the guiding principle for the syntactic realization of its arguments. Japanese appears to present a more intricate situation than what experimental data in English demonstrate to argue for the semantic bootstrapping hypothesis and the projectionist view. Recall that the projectionist approach to argument structure invokes the systematic mapping rule to account for the way in which a verb's arguments are projected onto syntax. An example illustrating such a linking mechanism has been given in (10–11) for Japanese. As these two schemata show, Case marking constitutes an important means to ensure that the thematic roles of the verb's arguments correspond to the appropriate grammatical functions. This is because unlike English, the word order among arguments does not register grammatical functions, nor does every argument associated with the verb necessarily



appear overtly due to noun ellipsis. Researchers who have examined longitudinal data of Japanese children's verb acquisition often report children's errors in Case particles, but they explicitly and implicitly state that the errors do not immediately suggest their lack of acquisition of the transitive vs. intransitive distinction of verbs. (Clancy 1985; Rispoli 1987; Morikawa 1997) Examples that illustrate errors with Case marking are given in (15–17); the correct Case is indicated in square brackets.

- (15) *Omizu* \**ga*[*o*]      *ireta*      *noni*  
 water \*NOM[ACC] put.in.PST but  
 'she put in water, but...'  
 (Clancy 1985: 389)
- (16) *Akatyan* \**ga*[*o*]      *turete*      *iku*.  
 baby \*NOM[ACC] take.GER go  
 '(We will) take the baby along.'  
 (Morikawa 1997: 56)
- (17) *Ootooyan* *ga*      *o*      \**ga*[*o*]      *kitta*.  
 Dad      NOM    *thong* \*NOM[ACC] cut.PST  
 'Dad cut the thong.'  
 (Morikawa 1997: 57)

The verbs in these examples are transitive: in (15) and (16), the sole overt NPs, *omizu* 'water' and *akatyan* 'baby', are direct objects and are expected to be marked with Accusative Case, *-o*, in adult language; in (17) *otooyan* 'Dad' is the subject and correctly marked with Nominative Case, *-ga*, but the direct object *o* 'thong' is incorrectly marked with Nominative Case, *-ga*. Given the expected linking of [agent-subject-Nominative] and [theme-direct object-Accusative] for a transitive verb, the type of errors demonstrated in (15–17) seems to indicate that the theme argument is not properly projected onto syntax. That is, the linking problem that children have is not with ALL of the verb's arguments, but rather it appears to be centered on the linking of theme, direct object, and the Accusative Case *-o*. If the semantic bootstrapping hypothesis and the projectionist view of argument structure are at play, children's acquisition data would be only partly explained while remaining issues would have yet to be accounted for. Japanese acquisition data of the sort discussed above, thus, challenges both of the bootstrapping hypotheses and also both approaches to argument structure.

Drawing on longitudinal data of two Japanese children, Rispoli (1987) observed that the children rarely Case marked theme arguments of transitive verbs. Based on this and also referring to Clancy's example in (15), he suggests that these children have not yet learned that direct objects are marked with *-o* as a morphological

reflection of syntactic projection because input data are not informative enough, as (14) shows. Furthermore, Rispoli goes on to claim that the children nevertheless know how to figure out the transitivity of verbs based not on morphosyntactic cues of Case particles but on semantic and contextual information that includes animacy of theme arguments and the planned nature of an action. For example, the two children's transitive sentences in his study are strongly tied to the presence of inanimate theme arguments while their intransitive sentences tend to have their sole arguments that refer to animates, animate surrogates, or vehicles. Of the total of 40 transitive sentences that one child produced, 63% can be characterized by having inanimate theme arguments in them. In contrast, of the total of 59 intransitive sentences, 78% have the sole argument referring to an animate, animate surrogate, or vehicle. Similarly, the other child produced 43 transitive sentences, of which 81% had inanimate theme arguments; and out of his 85 intransitive sentences, 59% were ones whose sole arguments were animate, animate surrogate, or vehicle. Rispoli's claim, supported also by Morikawa (1997), is that children are able to distinguish between transitive and intransitive sentences and that they do so according to the (inherent) semantic nature of the nouns, such as animacy, when they have not yet acquired how to pair them up morphosyntactically with appropriate Case markers. These discussions of acquisition data in Japanese make it clear that a comprehensive account of Japanese children's verb acquisition and issues related to argument structure needs to take into consideration language-specific properties that may interact directly or indirectly with lexical, morphological, and syntactic characteristics. (Slobin 2001; Fausey, Long, and Boroditsky 2009) And, such an account may have to incorporate additional (or alternative) factors that are needed to address language-specific acquisition patterns. As illustrated earlier, research on children's verb acquisition, such as in English and many other languages, offers not only testing grounds for acquisition theories like the bootstrapping hypotheses but also evaluative measures for the two approaches to argument structure under discussion. Japanese acquisition data contribute to the current theoretical debate on argument structure by adding a level of complexity to the range of phenomena being considered, resulting in a better understanding of the relation between argument structure and syntax.

### 3.2 Mimetic verbs

The projectionist approach to argument structure has been extensively adopted in the large literature on argument realization and related issues as they pertain to the Japanese data. One of the core assumptions that is prevalent is that a verb's meaning comprises two types, which Rappaport Hovav and Levin (1998) refer to as "structural" and "idiosyncratic". They distinguish between the two meaning types as follows: "The structural part of a verb's meaning is that part which is relevant to

determining the semantic classes of verbs that are grammatically relevant, while the idiosyncratic part of a verb's meaning distinguishes that verb from other members of the same class" (p. 106). The structural aspect is considered to be the properties over which regularities and generalizations relevant to the architecture of argument structure and to syntax are stated. Although approaches along these lines have been effectively adopted for analyses of lexical verbs in Japanese, as I will discuss below, these analyses may be challenged by verbs that are built around mimetic lexemes.

Mimetics are ubiquitous in Japanese, and there has been an enormous amount of literature that investigates them in virtually every sub-area of linguistics. (Kita 1997; Hamano 1998; Tamori and Schourup 1999; Nasu 2002; Akita 2009; to name only a few) While investigations of the mimetic word class across languages have often been restricted to language-specific descriptions, similarities to and differences from other word strata in a given language have been increasingly re-evaluated in recent years particularly with respect to their relevance to linguistic theories and language typology. Focusing on the elusive nature in meaning and argument structure properties of mimetic verbs, Tsujimura (2005, 2007, 2010, 2014, 2017) claims that mimetic verbs are different from non-mimetic verbs or prosaic verbs on several grounds, and argues for the construction approach in analyzing mimetic verbs. I will elaborate on the flexibility in meaning and in argument structure that mimetic verbs exhibit, showing that the degree of flexibility that mimetic verbs demonstrate is precisely the reason why they should be better approached from the construction view.

What I refer to as mimetic verbs are verbs formed by combining mimetic bases (or lexemes) with the light verb *suru*. There are countless such mimetic verbs. Examples include *tin-suru* '(to) microwave', *sappari-suru* 'be refreshed', *bikkuri-suru* 'be surprised', and *burabura-suru* '(to) stroll'. I have given what seems to be the most typical and conventionalized "definitions" of these mimetic verbs. It is widely believed that mimetic verbs have specific and fixed meanings assigned to them, and this assertion is probably true to the extent that the "definitions" reflect the conventionalized interpretations of given mimetic verbs. In what follows, however, I wish to demonstrate that mimetic verbs are remarkably flexible in what they "mean" and in the argument structure patterns in which they can appear, often far beyond what their conventionalized uses allude to.

Let us take *batabata-suru* for our first example. Kakehi, Tamori, and Schourup (1996: 46) give its "definition" as "to make a flapping or rattling noise", although the exact instantiations of a flapping or rattling noise can vary widely as long as the image that is connected to such noise is somehow reflected in what is being depicted, as (18–22) demonstrate. For our purpose, attention should be paid to the range of argument structure patterns in these examples; relevant aspects of arguments are annotated under each example.

- (18) *Ami ni haitta yatu [anago] wa[ga] ... batabata-suru kara*  
 net in enter.PST conger.eel TOP because  
*azi ga otimasu yo.*  
 taste NOM decrease SFP  
 ‘Conger eels in the net move in the *bata-bata* way, so they get less tasty.’  
 • intransitive frame  
 • subject-NOM: agent (=fish)  
 (Takehi, Tamori, and Schourup 1996: 46)
- (19) *Mayakutyuudokusya ga kusuri ga kimeruto*  
 drug.addict NOM drug NOM run.out.when  
*batabata-suru no to onazi...*  
 that as same  
 ‘In the same way as a drug addict moves in the *bata-bata* way when he runs out of the drug...’  
 • intransitive frame  
 • subject-NOM: agent (theme?) (=incognizant human being)  
 (Takehi, Tamori, and Schourup 1996: 47)
- (20) *Naya no to wa[ga] ... batabata-site, mimizawari da.*  
 Barn NOM door TOP irritating COP  
 ‘The barn door is moving noisily in the *bata-bata* way and is making a rough (irritating) noise.’  
 • intransitive frame  
 • subject-NOM: theme (=door)  
 (Takehi, Tamori, and Schourup 1996: 47)
- (21) *Musume wa teasi o ima made izyooni*  
 daughter TOP arms.legs ACC now until more  
*batabata-suru yooni.narimasita.*  
 has come to do come.to.PST  
 ‘My daughter has been moving her arms and legs in the *bata-bata* way more than ever.’  
 • transitive frame  
 • subject-NOM: agent (=human being)  
 • object-ACC: theme (=body parts)

(22) *Rooka o batabata-suru.*

hallway along

‘(He) moves along the hallway in the *bata-bata* way.’

- intransitive frame
- subject-NOM: agent (=human being)
- adjunct: path (=hallway)

(18–20) and (22) all take the intransitive frame with the subject marked with the Nominative Case although the subject argument does not have to be overtly present in syntax. The mimetic verbs in these sentences describe a manner of motion whose image relates to a “flapping” or “rattling” noise in one way or another. The subject arguments, however, are not uniform in their corresponding thematic roles. The arguments that are realized as the subjects in (18) and (22) are agents. The same may be said of (19) although the agent of the motion is not cognizant of the action. The mimetic verb in these three sentences is arguably an intransitive verb of the unergative type. (20) also takes the intransitive frame, but the sole argument realized as the subject bears the theme role. The mimetic verb in (20) then is an unaccusative verb. The unergative mimetic verb in (22), furthermore, is slightly different from those in (18–19) in that the motion described in (22) assumes intended change of location, as expressed by an adjunct referring to a path along which the motion takes place. The mimetic verb in (21) appears in the transitive frame, describing a caused motion. (18–22) show that a single mimetic verb can appear in the two types of intransitive patterns – unergative and unaccusative – as well as in the transitive frame. *Batabata-suru* is one of numerous mimetic verbs that are highly recognized and widely used, and even with relatively conventionalized meaning as is demonstrated in (18–22), the patterns in which arguments are realized in syntax take different frames. Importantly, the extent to which the mimetic verb *batabata-suru* flexibly appears in different argument realization patterns is not paralleled by prosaic verbs. (Tsujimura 2017)

A similar observation can be made with mimetic verbs whose “meanings” are often distant from their conventionalized ones and are innovatively assigned. This is shown by a series of unconventional “meanings” for *gatyagatya-suru* in (23–26). These examples and others akin to them have been found on the Internet and in daily conversation. Kakehi, Tamori, and Schourup (1996: 353) do not independently list the mimetic verb form of *gatyagatya-suru* but give the entry of the mimetic base *gatyagatya* as “[t]he clattering or rattling sound made by relatively thin metallic or ceramic objects knocking together repeatedly; the sound of an adding machine or similar mechanical device”.

(23) *Doanobu o gatyagatya-suru nante mottenohoka*

door.knob ACC

like out of question

‘It is out of the question to move a door knob in a *gachagacha* way.’

- (24) *XX-sensei to hutaride gatyagatya-siteitandesu kedo...*  
 XX.prof. with two but  
 'I was *gachagacha*-ing with Prof. XX, but...'
- (25) *Hai o otosu rebaa ga tuiteite, haiotosi no koto*  
 ashes ACC drop lever NOM attached ash.dropping GEN that  
*o "gatyagatya-suru" tte ittemasita. Kodomo ni wa*  
 ACC quotative is.called children to TOP  
*kekko gatyagatya-suru no ga omosirokattandesu.*  
 very that NOM was.fun  
 'It accompanies a lever with which you can let the ashes fall, and dropping the ashes is called "doing *gachagacha*". Doing *gachagacha* was fun for children.'
- (26) *Heya de gatyagatya no kapuseru o niyaniasinagara*  
 room in GEN capsule ACC grinning.while  
*aketeitara, haha ni "anata sono tosi de gatyagatya-suru*  
 was.opening mother by you that age at  
*no" to akireraremasita.*  
 Q QUOT was.amazed  
 'With a smile on my face, I was opening the capsule of *gacha-gacha* in my room, and then my mother was amazed, saying "you do *gacha-gacha* at your age!".'

In the set of examples above, only the instance of *gatyagatya-suru* in (23) appears in the transitive frame, in which an unexpressed subject corresponds to the agent role and the theme argument *doanobu* 'door knob' is realized as the object marked with the Accusative Case *-o*. The mimetic verb in this example directly reflects Kakehi, Tamori, and Schourup's dictionary definition of the mimetic base: Somebody makes a noise by repeatedly rattling the door knob, which is generally metallic. The same mimetic verb in (24–26) takes the intransitive frame with the sole argument – agent – interpreted as the subject (i.e. implicit in these examples). While these sentences seem to be uniform in the argument realization pattern, the mimetic verb, which is the common denominator among them, refers to distinct actions and states in each case. (24) was uttered by my colleague in a daily conversation, describing a situation in which she and her colleague, Professor XX, were taking care of odds-and-ends in a somewhat disorganized manner and without following a planned course of action. Some commonly used dictionaries such as *Kōjien* lists a disorganized state of affairs as one of the descriptors of the mimetic base, *gatyagatya*. Such a description, however, is generally applied to inanimate objects, unlike (24) in which a somewhat chaotic nature of the action by volitional and sentient human beings is referred to.

What the mimetic verb depicts in (25) is related to the conventionalized description given by Kakehi, Tamori, and Schourup but is extended innovatively to fit a specific situation. As the example itself defines, the mimetic verb *gatyagatya-suru* in (25) means to remove ashes from a coal stove by maneuvering the lever attached to it. Given the conventional “definition”, we might expect the lever to be the theme, or the ashes to be the theme while the lever to be the instrument. The uniqueness of the meaning definition in (25) is that the potential arguments of the mimetic verb based on our conventional knowledge of the mimetic verb are actually lexicalized in such a way that they do not form independent memberships of its argument structure, except for the agent argument. In order to fully understand what the mimetic verb refers to, including the membership of its argument structure, contextually rich information needs to be invoked in these particular cases. Sensitivity to contextual information and cultural knowledge that is relevant to the context is further illustrated by (26). The mimetic verb *gatyagatya-suru* in (26) can be considered a denominal verb: It is connected to the mimetic base *gatyagatya*, which, as a noun, refers to a type of small toy contained in transparent plastic capsules. These toys are generally sold in vending machines for purchase, and they are removed from a vending machine by maneuvering its handle, which makes a noise that is described as *gatyagatya*. The mimetic verb in (26) means playing with these small toys called *gatyagatya* or related activities that involve them. This example is similar to (25) in that what would generally be conceived of as the theme argument is lexicalized in the mimetic verb. The semantic contents of these two instances of the identical verb are entirely different although the only thread that distantly connects the two is the sound and image that the mimetic base *gatyagatha* invokes. These examples are particularly instrumental in recognizing that the lexical content of a verb that is relevant to the meaning is not always inherently determined but is governed by contexts that may call for knowledge of social background.<sup>13</sup> Going back to the earlier examples, the interpretations of the sentences in (18–22) that would correspond to the projectionist’s structural meaning are determined not by the lexical semantic properties that the mimetic verb *batabata-suru* inherently has (precisely because it does not have any, beyond its idiosyncratic meaning) but by the constructions in which *batabata-suru* appears. In (21), the transitive construction of the form {Subj<sub>x</sub>, Obj<sub>y</sub>, V} is linked to the interpretation of “x acts on y”, while in (22) the intransitive motion construction of the form {Subj<sub>x</sub>, Obl<sub>y</sub>, V} gives rise to the construal of “x moves y”.

It seems that the situation illustrated by examples of mimetic verbs above raises the fundamental question that Fillmore (1977a, b) discusses, namely, what Du Bois (2003: 24) terms the question of “participant inclusion”: Which participant roles of an event are selected to be regarded as arguments? Fillmore (1977a) explains that

<sup>13</sup> This type of contextually determined semantic content is discussed in Tsujimura and Davis (2011) for innovative verbs in Japanese, and applies to denominal verbs in general. (Clark and Clark 1979)

the four English verbs, *buy*, *sell*, *spend*, and *cost* all describe a commercial event, but specific participants or a particular combination of participants are included in linguistically relevant representations depending on which of them are in perspective. For instance, when the seller and the goods are in perspective, *sell* is used, while when the perspective of the goods and the money is taken, *cost* is used. This is why Fillmore (1977b: 72) refers to meanings as being “relativized by scenes”. Contextually determined semantic frames that include the information regarding which participant roles achieve the argument and co-argument status demonstrated in all the examples of mimetic verbs above seem to cast a particular challenge to the projectionist approach to argument structure. The lexical properties of mimetic verbs are essentially different from those of prosaic verbs, and they provide the construction view of argument structure (e.g. Tsujimura 2005, 2010, 2014, 2017) reasonable grounds to serve as an alternative approach.

Kageyama (2007), however, argues against the construction treatment of mimetic verbs and demonstrates that mimetic verbs and prosaic verbs should take a uniform approach that follows the projectionist-based templatic analysis to explain a variety of meanings that mimetic verbs can have. Following the lead of Rappaport Hovav and Levin (1998), who present an architecture of lexical representation for multiple meanings by using the mechanism called Template Augmentation, Kageyama claims that a mimetic base and the light verb *suru* are each associated with independent Lexical Conceptual Structures (LCSs), as in (27) and (28), and that the meaning of a mimetic verb is generated by way of augmenting, or incorporating, the two sets of LCSs, as in (29). An example of the process is illustrated by the derivation of the mimetic verb, *akuseku-suru* ‘work hard’. The mimetic base *akuseku* ‘busily’ is represented by the Type 1 LCS content in (27), and it is combined with the Type 1 LCS template in (28). The desired meaning representation is obtained with the argument projection pattern as an intransitive pattern of the unergative type, as in (30).

(27) Lexical Conceptual Structure (LCS) contents for mimetic base

Type 1: Manner  $\alpha$  of action

Type 2: ON<sub><Manner  $\alpha$ ></sub> Y

Type 3: x MOVE<sub><Manner  $\alpha$ ></sub> [Route]

Type 4: [EVENT BECOME [STATE x BE AT-[PSYCH.STATE<sub><Manner  $\alpha$ ></sub> ABOUT-z]]]

Type 5: [EVENT x's BODY-PART MOVE<sub><Manner  $\alpha$ ></sub>]

Type 6: [EVENT y MOVE<sub><Manner  $\alpha$ ></sub>]

Type 7: [EVENT BECOME [y BE AT-[STATE<sub><Manner  $\alpha$ ></sub>]]]

(28) Lexical Conceptual Structure (LCS) templates for *suru*

Type 1: [EVENT x ACT]

Type 2: [EVENT x ACT]



- Type 3: [EVENT x CONTROL[...]]  
 Type 4: [EVENT x EXPERIENCE[...]]  
 Type 5: [STATE x COGNIZE[EVENT...]]  
 Type 6: [STATE x COGNIZE[EVENT...]]  
 Type 7: [STATE x COGNIZE[EVENT...]]

- (29) *suru*'s LCS template: [EVENT x ACT]  
   ↑\_\_\_\_\_ <Manner α>: LCS content of a mimetic word
- (30) a. LCS template of *suru*:         [EVENT x ACT]  
       b. LCS content of *akuseku*: <Manner: BUSILY>  
       c. → Semantic incorporation *akuseku-suru*: [EVENT x ACT<BUSILY>]

The foundation of listing seven types of LCSs for mimetic bases and another seven types of LCSs for *suru* results from his thorough survey of existing mimetic verbs and their conventionalized meanings, as in (31).

- (31) a. Group A (Agent/Experiencer subjects)
- |                            |  |
|----------------------------|--|
| Type 1: [activity]         | (e.g. <i>akuseku-suru</i> ‘work hard’)       |
| Type 2: [impact]           | (e.g. <i>dondon-suru</i> ‘bang (the wall)’)  |
| Type 3: [manner-of-motion] | (e.g. <i>urouro-suru</i> ‘wander aimlessly’) |
| Type 4: [psychological]    | (e.g. <i>gakkari-suru</i> ‘be surprised’)    |
- b. Group B (Theme subjects)
- |                                      |  |
|--------------------------------------|--|
| Type 5: [physiological]              | (e.g. <i>zukizuki-suru</i> ‘throb (with pain)’)      |
| Type 6: [physical perception]        | (e.g. <i>guragura-suru</i> ‘wobble’)                 |
| Type 7: [characterizing predication] | (e.g. <i>assari-suru</i> ‘(taste) simple and light’) |

This is a very brief and somewhat abbreviated perusal of Kageyama's projectionist-based analysis, but it seems clear that the core of his argument is that the nature of the semantic characterization and the representation does not motivate a mechanism specific for mimetic verbs that is independent of the mechanism necessary for prosaic verbs. Kageyama's LCS-based analysis results from a meticulous examination of so-called "meaning" of mimetic verbs as in (31), but it seems that central to his characterization is a largely conventionalized or fossilized meaning of mimetic verbs which corresponds to primary meanings listed in mimetic dictionaries and general dictionaries. As the examples of mimetic verbs above demonstrate, there are mimetic verbs (e.g. 18–23) whose meanings are well defined and are conventionalized, and yet they can exhibit an innovative range of argument structure properties. There

are also mimetic verbs (e.g. 25–26) whose meaning definitions and structure of core arguments may be understood by only a restricted part of the speech community but nevertheless achieve a remarkable degree of expressiveness without hindering communication.

As long as the LCS templates and the mechanism of template augmentation are used as descriptive tools, they may serve their purpose equally for prosaic verbs and for mimetic verbs. However, the machinery of building verb meaning that is advanced by some of the proponents of the projectionist view, such as Rappaport Hovav and Levin (1998), has the intent of capturing much broader generalizations. As Rappaport Hovav and Levin argue, one such generalization is regular polysemy (Apresjan 1973): A variety of syntactic patterns in which a verb can appear, as in (32), is observed across the members of the same semantic class.

- (32) a. Terry swept.  
       b. Terry swept the floor.  
       c. Terry swept the crumbs into the corner.  
       d. Terry swept the leaves off the sidewalk.  
       e. Terry swept the floor clean.  
       (Rappaport Hovav and Levin 1998: 97)

The verb *sweep* belongs to verbs of surface contact through motion, and this semantic class includes *wipe*, *scrape*, *dust*, and *rub* as other members. The range of syntactic patterns in (32) in which the verb *sweep* appears is available to other members of the same verb class. As I have argued elsewhere (Tsujimura 2010, 2014, 2017), regular polysemy is one of the major characteristics that significantly separates mimetic verbs from prosaic verbs. The nature of polysemy that mimetic verbs exhibit, in fact, should be better characterized as “irregular polysemy”. That is, the range of meaning extensions and syntactic patterns of arguments that one member of a semantically (seemingly) coherent class of mimetic verbs exhibit is not systematically available to other members of the same class of mimetic verbs (Tsujimura 2014, 2017). Instead, multiple “meanings” and argument structure properties that are associated with a mimetic verb are specific to that particular mimetic verb. And there seem to be no systematic patterns beyond individual mimetic verb that would lead to generalizations over the nature of the relationship between verb meaning and argument structure patterns. Thus, the type of regularities for which the projectionist approach is motivated is lacking or meager in mimetic verbs. At the very least, the regularities are not consistently observed with mimetic verbs to the same extent that prosaic verbs demonstrate. On the one hand, the projectionist view has been influential in analyzing prosaic verbs in Japanese. On the other, the degree of flexibility in argument structure patterns of mimetic verbs and what could constitute their “meanings” may

shed interesting light on what argument structure really means for mimetic verbs. Mimetic lexemes form an important member of the Japanese lexical strata, and verbs that are built around them may well offer us a deeper insight into investigations of argument structure in general.

## 4 Conclusion

The topic of argument structure appears in a wide range of linguistics literature, out of which a number of important issues emerge with respect to its nature, both content and structure. The topic has been discussed both independently and in terms of its relation to morphology and syntax. There have already been a number of interesting observations made for Japanese from theoretical and comparative perspectives. Obviously this chapter touches on only a very small part of this research topic. Nevertheless, I hope to have shown through a brief sketch of argument structure and related matters in Japanese that language specific characteristics, far beyond translation equivalents, can contribute to the elucidation of some central factors that need to be included in approaching general and broad issues revolving around argument structure.

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## 21 Attributive modification

### 1 Introduction

How attributive modification works in Japanese is becoming a hot topic in recent years. The basic issue has been whether Japanese has the kind of adnominal modification structure found in languages like English and Italian. The answer to this question inevitably depends on our theoretical conception of adnominal modification. We need to identify properties that characterize modification structure as the basis for discussion. One very significant point in the analysis of adnominal modification is that different semantically-defined classes of adjectives are recruited for particular purposes of modification. Thus, a more fundamental question of identifying subclasses of adjectives must be addressed before we can obtain meaningful results for adnominal modification in general. This is not an easy task from a cross-linguistic perspective, due to the fact that some basic classes can be recognized in Japanese, but certain classes are absent. We should also keep in mind that lexicalization patterns may differ from one language to another. The source, and the extent, of variation are not known yet. We therefore need to proceed cautiously when comparing Japanese with other languages.

Attributive modification interacts with other areas of syntax as well, especially those involving degree variable binding. Here again, a careful assessment of data patterns is called for before jumping at conclusions in haste. The relevance of degree variable binding in this connection is not surprising, given that adnominal modification relates to one aspect of adjectival syntax, and that gradable adjectives come with a degree argument. Combination of these two facets provides a new research topic that is expected to illuminate the nature of adjectives from a UG point of view.

### 2 Initial observations

Sproat and Shih (1991) distinguish between direct and indirect modification on the basis of rigidity of adjectival ordering: ordering is rigid in direct modification while it is free in indirect modification. According to this criterion, prenominal adjectives in English exemplify direct modification (1), whereas Japanese uses adjectives for indirect modification (2)

(1) a. *small square table*

b. *\*square small table*

(Sproat and Shih 1991: 565)

(2) a. *tiisana sikakui ie*  
 small square house

b. *sikakui tiisana ie*  
 square small house  
 ‘small square house’

(Sproat and Shih 1991: 582)

Ordering is linked to semantic classes of adjectives. One relatively recent proposal concerning such a classification is given below.

(3) Hierarchy of Attributive Adjectives (Scott 2002: 114)

subjective comment > ?evidential > size > length > height > speed >  
 ?depth > width > weight > temperature > ?wetness > age > shape >  
 color > nationality/origin > material

In (1), the size adjective *small* must precede the shape adjective *square*. No such ordering restriction is found in the case of the Japanese counterparts in (2).

Cinque (1994) proposes that the adjectival ordering in direct modification should be encoded in the hierarchical organization of functional heads that host an attributive adjective in a structure of the kind illustrated in (4).

(4) [<sub>F1P</sub> AP F<sub>1</sub> [<sub>F2P</sub> AP F<sub>2</sub> NP]]

F<sub>1</sub> and F<sub>2</sub> are functional heads that select a designated type of adjective in their Spec. The hierarchical ordering of these functional heads itself is a stipulation under this proposal. Cinque (2010) further suggests that the structure for indirect modification comes on top of the structure for direct modification, as schematized in (5), where indirect modifiers are represented as RC, hosted in Spec of HP.

(5) [<sub>HP</sub> RC H [<sub>HP</sub> RC H [<sub>FP</sub> AP F [<sub>FP</sub> AP F NP]]]]  
 indirect modification direct modification

To capture the free ordering of indirect modifiers, it is necessary to assume that HPs are not subject to an ordering constraint, unlike FPs in the case of direct modification.

Cinque's (2010) proposal summarized in (5) is supported by a straightforward piece of evidence concerning the relative height of direct and indirect modification presented in Sproat and Shih (1991), who observe that direct modifiers are closer to the head noun than indirect modifiers in Mandarin, where adjectives modify a noun in two ways: with and without *de*. Direct modifiers are illustrated in (6).

(6) a. *xiao lü huaping*  
 small green vase  
 ‘small green vase’

- b. \**lǜ xiao huaping*  
green small vase (Sproat and Shih 1991: 566)

Note that a size adjective must be higher than a color adjective. In (7), on the other hand, the same pair of adjectives can be freely ordered, indicating that *de*-marked phrases are indirect modifiers.

- (7) a. *xiao-de lǜ-de huaping*  
small-DE green-DE vase  
b. *lǜ-de xiao-de huaping*  
green-DE small-DE vase  
'small green vase' (Sproat and Shih 1991: 565)

When a direct modifier and an indirect modifier co-occur, the former must follow the latter, as shown in (8).

- (8) a. *hei-de xiao shu*  
black-DE small book  
'small black book'  
b. \**xiao hei-de shu*  
small black-DE book (Sproat and Shih 1991: 571)

Significantly, the Japanese adjectives in (2) behave like those in (7), pointing to their indirect modifier status.

Incidentally, though Cinque uses RC in (5) as shorthand for relative clauses and Sproat and Shih (1991) treat indirect modifiers in Mandarin as relative clauses, indirect modifiers need not be full relative clauses. In fact, as will be shown in §3.3, what looks like an ordinary adjective can act as an indirect modifier under certain conditions. See also Paul (2005) for arguments against the relative clause analysis of modifiers with *de* in Mandarin.

Baker (2003) presents an additional argument for the absence of direct modification in Japanese that focuses on interpretative properties of attributive adjectives. The crucial case is ambiguity found in examples like (9).

- (9) *Olga is a beautiful dancer.*

The reading that is claimed to be subject to parametric variation is the one under which Olga dances beautifully. Larson (1998) analyzes this reading as arising from event modification by the adjective, following Bolinger's (1967) seminal work. In other words, the attributive adjective works as an adverbial under this interpretation, which is called non-intersective in the literature. (9) can also have an intersective

reading under which Olga is a dancer who is beautiful. The direct modification nature of the non-intersective reading can be seen from the contrast in (10).

- (10) a. *Olga is a blonde beautiful dancer.*  
       b. *Olga is a beautiful blonde dancer.* (Larson and Takahashi 2007: 113)

Larson and Takahashi (2007) point out that the non-intersective reading is possible only in (10a), which means that the position of the adjective for event modification is lower than the color adjective in the hierarchy of direct modification given in (3).

Now, Baker observes that Japanese does not allow ambiguity of this sort. (11) allows only the intersective reading.

- (11) *utukusii utaite*  
       beautiful singer  
       'singer who is beautiful' \*'someone who sings beautifully' (Baker 2003: 3)

Baker concludes from this observation that Japanese relies on the relative clause strategy when an adjective modifies a noun, direct modification of the kind found in English being forbidden.

The conclusion is premature, however, in view of examples like (12).

- (12) *migotona utaite*  
       beautiful singer  
       'someone who sings beautifully' \*'singer who is beautiful'

This example is also unambiguous, but in the opposite way, allowing only the non-intersective reading. The point is that *migotona* is specialized for event modification, as shown in (13).

- (13) a. *migotona daburu puree*  
       beautiful double play  
       'beautiful/wonderful double play'  
       b. *migotona odori*  
       beautiful dancing  
       'beautiful/wonderful dancing'  
       c. \**migotona hito*  
       beautiful person  
       'beautiful/wonderful person'

(13c) is interpretable only when event-related information is imported from the context of discourse. We are thus led to the conclusion that direct modification exists

in Japanese, contra Baker, if the non-intersective interpretation is associated with direct modification. The error comes from regarding the Japanese adjective *utukusii* as semantically equivalent to *beautiful* in English in every respect.

An important lesson from this discussion is that simple-minded translation is not a reliable tool for investigation. See also Cinque's (2010: 115) comments concerning Italian and German. Careful choice of appropriate adjectives is a prerequisite for meaningful results in this domain. Another significant point is that the hierarchy for direct modification in (3) is not complete. (3) does not provide a place for event modification within nominals. Further work is needed to shed more light on the structure of direct modification.

### 3 Properties of the attributive modification structure

We have seen that semantic aspects of attributive modification are intimately linked to its syntax, resulting in the hierarchical structural organization of direct and indirect modification. Note that the hierarchical organization is found both within direct modification and in the relation between direct and indirect modification. We have also seen that careful examination reveals that Japanese employs direct modification at least in one instance, on the assumption that non-intersective event-related interpretation cannot arise from indirect modification. This section starts by presenting more evidence for direct modification in Japanese.

#### 3.1 More evidence for the existence of direct modification in Japanese

Yamakido (2000, 2005) points to other cases of non-intersective interpretation such as (14), picking up the major theme of Bolinger's (1967) discussion concerning adnominal adjectives in English.

- (14) a. *Omoigakenai kyaku ga kita.*  
           unexpected guest NOM came  
           'An unexpected guest came.'

- b. *Max wa kanzenna baka da.*  
           Max TOP complete fool be  
           'Max is a complete fool.'

(Yamakido 2000: 593)

(14a) is another instance of event modification similar to (12), though there is a difference. (12) is a case of manner modification, while (14a) is not. (14a) corresponds to the adnominal version of speaker-oriented adverbials.

(14b), on the other hand, is not an example of event modification. It is an instance of degree modification, as Morzycki (2009, 2012) argues for its English counterpart. Adnominal degree modification is also possible with size adjectives in English, as illustrated in (15).

- (15) a. *big/huge/major idiot*  
       b. *big/huge/major basketball fan* (Morzycki 2012: 192)

Morzycki (2012) shows that size adjectives should be distinguished from the class exemplified by *complete* on the basis of the contrast between (15b) and (16b).

- (16) a. *utter/complete/absolute/outright idiot*  
       b. *#utter/complete/absolute/outright basketball fan* (Morzycki 2012: 194)

# indicates that the relevant degree reading is not available. The contrast between (15b) and (16b) also reminds us that for adnominal modification, noun classes matter. It should be added further that noun classes make a difference for adnominal degree modification in Japanese, too, as shown by the unavailability of the degree reading in (17).

- (17) *#kanzenna basukettobooru fan*  
       complete basketball fan

Like English, Japanese distinguishes between the two classes of adjectives in adnominal degree modification. Interestingly, only the root portion of size adjectives can be used as a degree modifier, as demonstrated in (18), where *baka* must be suffixed with *-yaroo* for a mysterious reason.

- (18) a. *oo baka\*(-yaroo)*  
       big fool-bastard  
       ‘big idiot’  
       b. *#oo-kii baka(-yaroo)*  
       big fool-bastard  
       c. *#oo-kina baka(-yaroo)*  
       big fool-bastard

As a result, expressions such as (18a) and (19) look like compounds.

- (19) *oo zake-nomi*  
       big sake-drinker  
       ‘heavy drinker’

Note that the sequential voicing occurs on the initial consonant of *sake* in (19). It is an interesting open question for future research to address whether these compound-looking expressions should be dealt with in phrasal syntax or not.

The same question about proper treatment arises for the Sino-Japanese version *dai* in (20), regarded as a prefix in Kageyama (1982).

- (20) *basukettobooru no dai-fan*  
 basketball GEN big-fan  
 ‘big fan of basketball’

The Sino-Japanese version differs from the native version in its ability to serve for phrasal modification with the help of the linker *-no*, as shown in (21).

- (21) a. *dai no basukettobooru fan*  
 big LINK basketball fan  
 ‘big basketball fan’  
 b. *dai no wain aikooka*  
 big LINK wine enthusiast  
 ‘big wine enthusiast’  
 c. *\*oo no baka-yaroo*  
 big LINK fool-bastard  
 ‘big idiot’

See Watanabe (2010) for discussion of the linker *-no* and Takahashi (2011) for details in relation to ellipsis. For the purposes of this chapter, it may suffice to note that the linker in (21) should be distinguished from the homophonous genitive marker in (20). And see Nishiyama (2005) on adjectival roots.

Ayano (2010) strengthens the direct modification status of (14b) by observing that *kanzenna* is subject to an ordering restriction, as demonstrated in (22).

- (22) a. *monomidakai kanzenna baka*  
 burningly.curious complete fool  
 ‘burningly curious complete fool’  
 b. *\*?kanzenna monomidakai baka*  
 complete burningly.curious fool  
 ‘complete burningly curious fool’ (Ayano 2010: 105)

He also adds that *kanzenna* must be lower than a numeral, as shown in (23).

- (23) a. *huta-ri no kanzenna baka*  
 two-CLF LINK complete fool  
 ‘two complete fools’

- b. \*?*kanzenna huta-ri no baka*  
 complete two-CLF LINK fool (Ayano 2010: 107)

An ordering restriction is also found in the case of size modifiers, as illustrated in (24), confirming their direct modification status.

- (24) a. *zyoonetutekina dai no sakkaa fan*  
 passionate big LINK football fan  
 ‘passionate big basketball fan’  
 b. \*?*dai no zyoonetutekina sakkaa fan*  
 big LINK passionate football fan  
 ‘big passionate basketball fan’

In contrast to adnominal degree modifiers, *omoigakenai* in (14a) can appear in front of a numeral, as in (25).

- (25) *Omoigakenai huta-ri no kyaku ga soko ni ita.*  
 unexpected two-CLF LINK guest NOM there LOC was  
 ‘Two unexpected guests were there.’

In view of the fact that speaker-oriented adverbs are located in a relatively higher region of clausal structure (Cinque 1999), it is not so surprising to find that the place of their adnominal version can be higher than a numeral. At the same time, the observation warns us that the non-intersective semantics is not a perfect litmus test for the direct modification status. It is therefore necessary to revisit the example of adnominal event modification discussed in §2. Though the contrast may not be as sharp as we want, (26a) sounds better than (26b).

- (26) a. *utukusii migotona utaite*  
 beautiful wonderful singer  
 ‘beautiful person who sings beautifully’  
 b. ??*migotona utukusii utaite*  
 wonderful beautiful singer

This ordering effect confirms that adnominal manner modification in Japanese is an instance of direct modification.

### 3.2 Non-adjectival direct modifiers

So far, evidence for direct modification in Japanese has been limited to those modifiers not covered by the hierarchy in (3). Though listed in (3), size adjectives recruited for degree modification are not used as ordinary adjectives, both morphologically



and semantically. Only the bound root portion acts as an adnominal degree modifier. Furthermore, what matters is not a physical size. This section turns to the lowest two classes in (3), which display the direct modification behavior. Curiously, we witness a similar twist here.

Watanabe (2012) observes that a nationality/origin modifier must be higher than a material modifier, as dictated by the hierarchy in (3), pointing to the contrast in (27) and (28).

- (27) a. *hokuoo no ki no isu*  
 North.Europe LINK wood LINK chair  
 ‘North European wooden chair’
- b. \**ki no hokuoo no isu*  
 wood LINK North.Europe LINK chair (Watanabe 2012: 508)
- (28) a. *tiri no kin no kubikazari*  
 Chile LINK gold LINK necklace  
 ‘Chilean gold necklace’
- b. \**kin no tiri no kubikazari*  
 gold LINK Chile LINK necklace (Watanabe 2012: 508)

The twist mentioned above is that Japanese does not have adjectives that express nationality/origin or material. Note that the linker *-no* appears in (27) and (28), as in (21), allowing nominal expressions to modify the head noun directly.

Watanabe points out that the nominal character of these modifiers has an interesting consequence of justifying the existence of functional heads that host modifiers in their Spec in (4). The meaning of origin, for example, does not arise from combining a place/country/region name with the head noun. There are many imaginable relations between such a name and the head noun (ex. destination), out of which the origin interpretation must be picked out. In the case of adjectives derived from such a name, one may attribute the meaning of origin to the derivational affix. The only possible source of the origin interpretation for modifier nouns, however, is the F head posited in (4). In other words, the F head plays a role in semantic interpretation. It should also be emphasized that attributive direct modifiers need not be limited to adjectives. Nominal expressions can be hosted in Spec of FP in (4). Thus, questions about the categorial status of *dai* in (21) do not preclude it from being a direct modifier.

Watanabe (2012) further observes that a size adjective is higher than nationality/origin and material modifiers, as shown in (29).

- (29) a. *tiisana ki no hasi*  
 small wood LINK bridge  
 ‘small wooden bridge’
- b. ??*ki no tiisana hasi*  
 wood LINK small bridge (Watanabe 2012: 507)
- (30) a. *tiisana tyuugoku no kabin*  
 small China LINK vase  
 ‘small Chinese vase’
- b. ??*tyuugoku no tiisana kabin*  
 China LINK small vase (Watanabe 2012: 507)

The contrast here does not necessarily mean that size adjectives belong to direct modification. As indicated by free ordering in (2), they have an option of making use of indirect modification structure. Since indirect modifiers are located above the structure for direct modification, the ordering in (29) and (30) follows, regardless of whether *tiisana* is a direct or indirect modifier.

Watanabe (2012) also notes that focusing of modifiers can lead to reordering, as in the case of English (Scott 2002), observing that inserting a pause after the first modifier rescues word orders that are judged to be impossible. This may not be a simple matter of whether or not there is a pause, but is probably linked to phrasal phonology, in which case we expect to find tonal correlates of differences in phonological phrasing (Pierrehumbert and Beckman 1988). A pause may be inserted when there is not enough segmental material to fill a larger phrase. Ken Hiraiwa (personal communication) points out that when the material modifier is long, no pause is needed for an acceptable example with the order corresponding to that in (29b), as illustrated in (31).

- (31) a. *tiisana konkuriito no hasi*  
 small concrete LINK bridge  
 ‘small wooden bridge’
- b. *konkuriito no tiisana hasi*  
 concrete LINK small bridge

An initial impression is that in (31b), *tiisana* does not seem to undergo downstep, a lowering of pitch within a domain called the Major Phrase in the literature, suggesting that *konkuriito-no* is followed by a Major Phrase boundary. In (31a), on the other hand, *konkuriito-no* seems to be downstepped just like the second adjective of a sequence of adjectives modifying a noun such as *umai nigai nori* ‘tasty bitter seaweed’ discussed by Selkirk and Tateishi (1991). Of course, these naïve impressions need to

be confirmed (or disconfirmed) by experiment. The result also has to be compared with phonological effects of focusing at the sentential level, where Major Phrases are claimed to be unaffected by focus (Ishihara 2007). In fact, Pierrehumbert and Beckman (1988) argue that a phonological boundary is placed before, but not after the focused element in the case of an adjective-noun combination. But then, the effect on tone and phonological phrasing in (31b) cannot be due to focusing alone, since a pause after the first modifier does not result in focusing of the second modifier there. Interestingly, Sproat and Shih (1991) observe for English that parallel modification, which results in independent, parallel modification of the head noun by each adjective, ignoring the hierarchical ordering, leads to separate phrasing of each adjective, citing examples like *those Oriental, orange, wonderful ivories*. Cases like (31b) in Japanese, then, may also be instances of parallel modification.

The point of this discussion is that potentially relevant data is not limited to acceptability judgments and the presence or absence of a pause if we want to examine possible orders of adnominal modifiers. Short modifiers, however, can sidestep complications concerning tone and phonological phrasing to provide relatively straightforward evidence that direct modification exists in Japanese.

### 3.3 Non-finite indirect modifiers

Having established the existence of direct modification in Japanese, let us now turn to indirect modification. The existence of direct modification provides us with a new perspective from which to approach indirect modification.

Discussing cases like (14), Yamakido (2000) correctly points out that if the adnominal modifiers in these examples belong to direct modification, they should not contain tense, since full relative clauses cannot be direct modifiers. Yamakido (2005, 2007, 2013) takes up dialectal variation in the morphological shape of adjectives to support the claim, but Ayano (2010) presents a fairly simple piece of evidence that prenominal adjectives can appear without tense, pointing to the ill-formedness of (32), as compared with (14b).

- (32) *\*kanzen de aru baka*  
 complete PRED is fool (Ayano 2010: 108)

The crucial fact is that (32) contains the present tense form of the copula, which is used in an independent clause as in (33a).

- (33) a. *Sono hito wa totemo kinsetu de aru.*  
 that person TOP very kind PRED is  
 'That person is very kind.'

- b. *totemo sinsetu-na hito*  
       very    kind-NA person  
       ‘very kind person’

Adnominally, the form with *-na* is used as in (33b). This is a characteristic morphological property of so-called adjectival nouns, whose adjectival status will be discussed in detail in §4. Note also that (12) behaves in the same way, as can be seen from the unacceptability of (34).

- (34) \**migoto de aru utaite*  
       beautiful PRED is singer

The contrast between (14b) and (32) or between (12) and (34) leads us to conclude that the form with *-na* is tenseless, contrary to the traditional assumption found in works such as Nishiyama (1999).

Now, the indirect modifier *tiisana* in (2) contains *-na*, which suggests that indirect modifiers can also be tenseless. In fact, this is the sense in which Cinque (2010) uses the term “reduced relative clauses”. Interestingly, a superlative adjective acting as an indirect modifier provides striking evidence that indirect modification in Japanese does not have to take the form of finite relative clauses. The argument comes from Shimoyama’s (2011, 2014) observation about possible semantic interpretations of superlative adjectives.

The starting point for discussion is the fact that a superlative adjective allows two types of reading, called absolute and comparative readings (Farkas and É Kiss 2000; Szabolcsi 1986). On the absolute reading, (35) means something like ‘who climbed Mt. Everest?’.

- (35) *Who climbed the highest mountain?* (Farkas and É Kiss 2000: 417)

The comparative reading can be paraphrased as ‘who climbed a higher mountain than anybody else did?’. The same ambiguity exists in Japanese, as discussed in detail by Aihara (2009). (36), for example, behaves in the same way as (35).

- (36) *John ga itiban takai yama ni nobotta.*  
       John NOM most high mountain LOC climbed  
       ‘John climbed the highest mountain.’ (Aihara 2009: 347)

Shimoyama (2011, 2014) points out that when the adnominal modifier is put in the past tense, the comparative reading becomes unavailable. (37b) and (38b) below, for example, only have the absolute reading, in contrast to (37a) and (38a), which are ambiguous.

- (37) a. *Taroo ga itiban omosiroi hito o syuzaisita.*  
 Taro NOM most funny person ACC interviewed  
 'Taro interviewed the funniest person.'
- b. *Taroo ga itiban omosirok-atta hito o syuzaisita.*  
 Taro NOM most funny-was person ACC interviewed  
 'Taro interviewed the person who was/had been the funniest.'  
 (Shimoyama 2011: 363)
- (38) a. *Ken ga itiban sinsen-na sakana o hurumatta.*  
 Ken NOM most fresh-NA fish ACC treated  
 'Ken treated (the guests) to the freshest fish.'
- b. *Ken ga itiban sinsen datta sakana o hurumatta.*  
 Ken NOM most fresh-NA was fish ACC treated  
 'Ken treated (the guests) to the fish that had been the freshest.'  
 (Shimoyama 2011: 363–364)

She argues that it is not just past tense, but tense in general that blocks the comparative reading. Thus, the comparative reading of (37a) and (38a) is shown to come from a tenseless adnominal modifier. (37) involves an ordinary adjective. Since the form in (37a) is also used in a present tense independent clause as in (39), one cannot tell from (37) alone whether the absolute reading is also due to a tenseless adnominal modifier.

- (39) *Sono hito wa totemo omosiroi.*  
 that person TOP very funny  
 'That person is very funny.'

In (38a), on the other hand, an adjectival noun with *-na* is used. So, we can safely conclude that the absolute reading is possible for a tenseless adnominal modifier, as long as it is assumed that relative clauses allow no present-tense null copula to be combined with the *-na* form. We also need to assume that (39) involves a null copula, to allow the adjective in (37a) to remain tenseless.

The critical question now is whether the comparative reading belongs to direct or indirect modification. Cinque (2010) argues that it is an instance of indirect modification, based on the observation about Italian that the prenominal placement of a superlative adjective (40a) disallows the comparative reading, while the postnominal placement (40b) leads to ambiguity.

- (40) a. *Chi ha scalato la più alta montagna innevata?*  
 who has climbed the most high mountain snowy  
 'Who climbed the highest snowy mountain?'

- b. *Chi ha scalato la montagna innevata più alta?*  
 who has climbed the mountain snowy most high

(Cinque 2010: 12)

The claim is embedded in an elaborate analysis of roll-up movement to derive post-nominal adjectives from the structure schematized in (5), for which the reader is referred to his monograph. The linkage of the comparative reading with indirect modification seems easier to demonstrate in the case of Japanese, where all adnominal modifiers precede the head noun, with no interfering roll-up movement. Consider the following examples:

- (41) a. *Ken ga itiban ooki-na marui isi o mottekita.*  
 Ken NOM most big-NA round stone ACC brought  
 'Ken brought the biggest round stone.'
- b. *Ken ga marui itiban ooki-na isi o mottekita.*  
 Ken NOM round most big-NA stone ACC brought

The comparative reading, available for (41a), is impossible in the case of (41b). Since both size adjectives like *ooki-na* and shape adjectives such as *marui* can act as indirect modifiers, as evidenced by free ordering illustrated in (42), the contrast in (41) shows that the superlative under the comparative reading cannot be a direct modifier.

- (42) a. *Ken ga ooki-na marui isi o hirotta.*  
 Ken NOM big-NA round stone ACC picked.up  
 'Ken picked up a big round stone.'
- b. *Ken ga marui ooki-na isi o hirotta.*  
 Ken NOM round big-NA stone ACC picked.up

Actually, it should be even higher than ordinary indirect modifiers, for the absence of the comparative reading in (41b) could not be explained otherwise. We are led anyway to conclude that the comparative reading of superlatives involves non-finite indirect modification.

Shimoyama (2014) claims that the comparative reading is an instance of direct modification, but presents no Japanese data that support the claim. The unavailability of the comparative reading in (41b) is straightforward evidence that the superlative of the comparative reading cannot be placed in a position lower than indirect modifiers, which rules out the direct modifier analysis. In fact, Shimoyama (2014) discusses a relevant example, given in (43), without drawing a proper conclusion.

(43) *Ken ga itiban siroi marui ookii onigiri o tukuru daroo.*

Ken NOM most white round big rice.ball ACC make EVID

'It's likely that Ken will make the whitest round large rice ball.'

(Shimoyama 2014: 322)

(43) contains three adjectives, with the lower two of them in the order that violates the hierarchical placement characteristic of direct modification. The shape adjective *marui* in the middle can only function as an indirect modifier, since it comes in front of a size adjective. It then follows that the superlative adjective is also an indirect modifier. Shimoyama's observation is that the comparative reading is possible in (43). We are then led to conclude that the superlative of the comparative reading involves indirect modification, not direct modification, contrary to Shimoyama's claim.

As for the absolute reading, Cinque claims that it belongs to direct modification. If that position is tenable, the availability of an absolute reading in (41a) provides another piece of evidence that non-superlative adjectives in Japanese can be used in direct modification. Is there Japanese-internal evidence that supports Cinque's claim? The configuration in (43) is relevant again. A different type of verb needs to be substituted, however, because a creation verb in the future tense is biased against the absolute reading. Consider (44).

(44) *Ken wa itiban siroi marui ookii onigiri o mottekita.*

Ken TOP most white round big rice.ball ACC brought

'Ken brought make the whitest round large rice ball.'

The absolute reading is possible. Since the superlative adjective in the configuration of (44) cannot be a direct modifier, we are driven to the conclusion that the superlative of the absolute reading also belongs to indirect modification in Japanese. At the same time, the contrast in (41) shows that the absolute reading and the comparative reading come from different structural positions, suggesting that a more fine-grained distinction may have to be recognized within indirect modification. Italian data need to be revisited, too.

Incidentally, no comparative reading is possible for (44). I have deliberately used the topicalized subject in (44) to suppress the comparative reading. To simplify things a little bit, Szabolcsi (1986) and Farkas and É Kiss (2000) point out that a comparison set for the comparative reading requires a focused constituent that is put in contrast with alternatives. Shimoyama (2011, 2014) observes that the same restriction holds in Japanese as well. In (43), the non-topicalized subject serves this purpose. In (44), on the other hand, the subject is topicalized, with no focused constituent that provides a comparison set. Hence the impossibility of the comparative reading.

Let us turn to another class of non-finite modifiers whose nature the comparative reading of superlatives clarifies.

Kusumoto (2001) takes up the well-known observation that the *-ta* suffix, which otherwise functions as the past tense morpheme, does not express tense when it forms an adnominal modifier in cases like (45).

- (45) *magat-ta miti*  
 wind-TA road  
 ‘winding road’

The basic descriptive point is that there does not have to be any previous event that has led to the current state of the road in (45). Kusumoto proposes that this non-past morpheme *-ta* is a participle-forming suffix. In that case, (45) is also an instance of non-finite adnominal modification. In other words, (45) does not involve a full relative clause. Shimoyama (2011) confirms the non-finite status of this type of modifier by pointing out that a comparative reading is available for the superlative version, as in (46).

- (46) *Haruko ga itiban magat-ta miti o hasitta.*  
 Haruko NOM most wind-TA road ACC ran  
 ‘Haruko ran the most winding road.’ (Shimoyama 2011: 365)

We have another type of non-finite indirect modifier here.

### 3.4 Degree variable binding

The structure for adnominal modification, where gradable adjectives occupy a central place, interacts with another aspect of syntax. One issue concerning gradable adjectives in Japanese is the proper treatment of comparatives. Beck, Oda, and Sugisaki (2004) argue that the Japanese construction does not involve degree variable binding derived from *wh*-movement, unlike the English comparative structure. Shimoyama (2012), however, shows that the evidence for degree variable binding is compelling. One question left open in this debate has to do with the variable acceptability of clausal comparatives illustrated in (47), an observation originally due to Ishii (1991).

- (47) a. *?(?)Taroo wa Hanako ga katta yori nagai*  
 Taro TOP Hanako NOM bought than long  
*kasa o katta.*  
 umbrella ACC bought  
 ‘Taro bought a longer umbrella than Hanako did.’



- b. *Taroo wa Hanako ga katta yori takai*  
 Taro TOP Hanako NOM bought than expensive  
*kasa o katta.*  
 umbrella ACC bought

‘Taro bought a more expensive umbrella than Hanako did.’

(Beck, Oda and Sugisaki 2004: 300, 302)

Beck et al. take this variability as one of the main reasons for assuming that Japanese does not make use of *wh*-movement in clausal comparatives unlike English, where no such variability is found. Shimoyama, on the other hand, tentatively suggests that a word order difference may be responsible for the contrast between English and Japanese. Specifically, she claims that the deleted constituent within the *yori* clause, indicated in (48), needs to be matched with its antecedent in the matrix clause.

- (48) *Hanako ga takai-kasa-o katta yori*

The difference between English and Japanese is that this antecedent precedes the deleted part in English, whereas that is not the case in Japanese. The marginality of (47a) is attributed to the difficulty of anticipating the antecedent in on-line processing at the point where it is not yet encountered.

This section explores an alternative approach to the phenomenon in (47) that has not been pursued before. The reader is referred to Bhat and Takahashi (2011), Hayashishita (2009), and Kennedy (2007), in addition to the works cited, for various other problems surrounding the analysis of comparatives in Japanese.

Let it be clear at the outset that the unacceptability of (47a) is not so strong. Beck et al. report it to be at most questionable. Shimoyama says that judgments are subtle. So we are dealing with delicate data. The strategy of this section, therefore, is to try to find an analogous case of subtle acceptability fluctuation.

The point of departure is the recognition that the treatment of adnominal structure is clearly relevant here. Assuming with Shimoyama (2012) that the Japanese comparative construction has essentially the same syntax as the English counterpart leads us to ascribe the marginality of (47a) to the difficulty of associating it with a well-formed *wh*-extraction structure. In this connection, the contrast illustrated in (49) becomes relevant.

- (49) a. *John wants to find a better solution than Christine did.*

- b. \**John wants to find a solution better than Christine did.* (Bresnan 1973: 320)

It is fairly uncontroversial that postnominal adjectives in English are reduced relatives (Sadler and Arnold 1994). Cinque (2010) derives the postnominal positioning of these

indirect modifiers by raising a projection containing the head noun from the structure schematized in (5), with an indirect modifier left behind. The ill-formedness of (49b) indicates that attributive comparatives are ruled out in the case of indirect modification in general when the *than* clause is parallel to the matrix clause in structure. The reason is that only adjectives are targeted for comparison in the case of reduced relatives. One can then treat the marginality of (47a) in the same way as the ungrammaticality of (49b), under the hypothesis that a relative clause parse of *nagai kasa* is the preferred structural option in (47a). In fact, a full finite relative clause is involved in (47a), as will be shown shortly. The less than fully unacceptable status of (47a) is a reflection of the fact that the relative clause parse is not so strongly forced. In (47b), on the other hand, a direct modification structure is easily available, allowing the structural option found in (49a). Thus, well-formed comparatives like (47b) constitute evidence that adjectives in Japanese can be used for direct modification.

Now, this alternative approach appears to simply shift the problem from the comparative construction to adnominal modification. Under the new alternative just indicated, the fact remains that adnominal modification in Japanese is subject to a constraint that is not operative in English, and we need to ask why. Nevertheless, to what extent English and Japanese differ in attributive modification is a major theme of this chapter. If a difference is found, that has to be recognized as such. Furthermore, the acceptability of quantity comparison in (50) is straightforwardly explained, since no relative clause parse is conceivable here.

- (50) *Taroo wa Hanako ga katta yori takusan (no)*  
 Taro TOP Hanako NOM bought than many LINK  
*kasa o katta.*  
 umbrella ACC bought

‘Taro bought more umbrellas than Hanako did.’

(Beck, Oda and Sugisaki 2004: 290)

Importantly, whether a full relative clause parse is forced or not can be detected independently. Recall that the comparative reading of superlatives becomes unavailable when the adnominal adjective is placed in a finite clause. We can test the same pair of object-verb combinations on superlatives, as in (51).

- (51) a. *Hanako ga itiban nagai kasa o katta.*  
 Hanako NOM most long umbrella ACC bought  
 ‘Hanako bought the longest umbrella.’  
 b. *Hanako ga itiban takai kasa o katta.*  
 Hanako NOM most expensive umbrella ACC bought  
 ‘Hanako bought the most expensive umbrella.’

Though the contrast is subtle again, it seems to go in the predicted direction, the comparative reading more difficult to get in (51a) than in (51b). The correlation of acceptable adnominal comparatives with the availability of the comparative reading of superlatives can be seen in (52) as well.

- (52) a. *Taroo wa Hanako ga kaita yori nagai ronbun o kaita.*  
 Taro TOP Hanako NOM wrote than long paper ACC wrote  
 ‘Taro wrote a longer paper than Hanako did.’ (Ishii 1991: 134)
- b. *Hanako ga itiban nagai ronbun o kaita.*  
 Hanako NOM most long paper ACC wrote  
 ‘Hanako wrote the longest paper.’

It should also be mentioned that the behavior of comparatives and that of superlatives are not completely parallel. In the case of comparatives, what matters is the distinction between direct and indirect modifiers. The comparative reading of superlatives, on the other hand, only requires non-finiteness. Recall that superlatives under the comparative reading are indirect modifiers in the first place. The point of discussion, however, is that once a finite full relative clause parse is forced, both clausal comparatives and the comparative reading of superlatives become impossible. It is an important empirical task for future research to figure out what kind of adjective-noun sequence prefers a full relative clause parse in relation to the matrix predicate.

## 4 Adjectival classes

The discussion in this chapter has revealed that adjectival classes are key elements in the syntax of adnominal modifiers. The hierarchy in (3) for direct modification is stated in such terms in the first place, Japanese lacks certain classes of adjectives (nationality/origin and material), and size adjectives are recruited for degree modification both in English and in Japanese. It should also be mentioned that Dixon (2004) stresses the importance of adjectival classes in typological studies. We do not yet have an exhaustive classification, but that does not diminish the significance of adjectival classes. On the contrary, an effort to discover various roles of adjectival classes should be put on the long-term research agenda. This section looks at the relation of adjectival classes to morphological profiles of subtypes of adjectives.

Let us begin with the well-known fact that Japanese has so-called adjectival nouns in addition to ordinary adjectives. Kageyama (1982) and Miyagawa (1987) treat the two morphological classes as distinct categories, providing an analysis in terms of categorial features. Backhouse (1984) and Ohkado (1991), on the other hand,

argue that adjectival nouns are adjectives after all. See also Nishiyama (1999) for a morphological analysis of adjectival nouns as a subclass of adjectives. This chapter has so far assumed that adjectival nouns should be subsumed under the larger category of adjectives, following Backhouse and Ohkado. To pick up one argument from Ohkado's list, superlative formation is common to adjectival nouns and ordinary adjectives, as we have already seen in (37) and (38). Does consideration of semantic classes shed new light on the issue?

What should be highlighted in the context of adjectival classes is a very simple fact, discussed briefly by Backhouse (1984), that an ordinary adjective and an adjectival noun sometimes form an antonym pair, as in (53).

- (53) a. *kirei-na* 'clean' / *kitanai* 'dirty'  
       b. *sizuka-na* 'quiet' / *yakamasii* 'noisy'  
       c. *oroka-na* 'stupid' / *kasikoi* 'clever'

There are not many pairs like these, but their very existence would not be possible if adjectival nouns and ordinary adjectives were not categorially identical. Note that the positive and negative members of an antonym pair make use of the same scale structure, differing only in the ordering of degrees (Kennedy 2001, Kennedy and McNally 2005, Sassoon 2010). They are therefore members of the same particular semantic class. It would be very surprising if such semantic twins belonged to distinct syntactic categories.

Furthermore, size adjectives allow the *-na* suffix, characteristic of adjectival nouns, as an option in the case of adnominal modification, as shown in (54), despite the fact that the *i*-ending, characteristic of ordinary adjectives, is the only option for predicative use in present tense, as shown in (55).

- (54) a. *ooki-na* / *ooki-i ie*  
           big-NA / big-I house  
           'big house'  
       b. *tiisa-na* / *tiisa-i ie*  
           small-NA / small-I house  
           'big house'

- (55) a. *Hanako no ie wa {\*ooki de aru / <sup>ok</sup>ooki-i}*.  
           Hanako GEN house TOP big PRED is big-I  
           'Hanako's house is big.'  
       b. *Hanako no ie wa {\*tiisa de aru / <sup>ok</sup>tiisa-i}*.  
           Hanako GEN house TOP small PRED is small-I  
           'Hanako's house is small.'

This fact, noted again by Backhouse, indicates that the *-na* suffix should be treated just as a morphological choice for adnominal modification available within a larger category of adjectives. That means that the distinction between adjectival nouns and ordinary adjectives is nothing but morphological. Note incidentally that the behavior of *-na* with size adjectives reinforces the idea that it should be dissociated from tense.

Likewise, the fact that deverbal modifier *magat-ta* ‘winding, bent’ in (43) forms an antonym pair with *massugu-na* ‘straight’, an adjectival noun, gives support to the idea that deverbal forms suffixed with *ta* are also adjectives when the past tense interpretation is absent. See Kusumoto (2001) as well as Ogihara (2004) for semantic analysis of this subtype of adjectives.

In connection with antonym pairs, a peculiar polarity-sensitive item *roku-na* is worth mentioning. This expression requires negation, as shown below.

- (56) *Saikin roku-na sakka ga syoo o tora nai /\*toru.*  
 recently good-NA writer NOM award ACC get NEG get  
 ‘Recently, no good writers receive an award.’ (Kataoka 2006: 222)

But the significance of this item is not limited to its polarity-sensitivity. It is paired with a negative version *roku-de-mo-nai* ‘terrible’. Although one might consider the possibility that the final *nai* is sentential negation, there is a similar item that cannot be analyzed that way, namely, *ton-de-mo-nai* ‘awful’, for which there is no independent use of the morpheme *ton*. It is safe to conclude that *-nai* in *roku-de-mo-nai* is a negative affix, comparable to *in-* and *un-* in English. Notice that *roku-de-mo-nai* can be nominalized as *roku-de-mo-na-sa*. Now, given the negative version *roku-de-mo-nai*, it may not be appropriate to gloss *roku-na* as ‘good’ as Kataoka does. I would suggest ‘not bad’ in its stead.

Going back to the question of the status of adjectival nouns, it should be noted that the antonym pair *roku-na* and *roku-de-mo-nai* is another case where an adjectival noun and an ordinary adjective are coupled, lending further support to the idea that adjectival nouns are a subclass of adjectives.

One more thing to note about *roku-na* is that it is an adnominal modifier that resists placement in tensed clauses, as demonstrated in (57).

- (57) \**Saikin roku de aru sakka ga syoo o tora nai.*  
 recently not.bad PRED is writer NOM award ACC get NEG

Though the source of the ill-formedness of (57) is debatable, the contrast between (56) and (57) is another piece of evidence that non-finite adnominal modification exists in Japanese.

Turning to the semantic classification of adjectives in (3) itself, its significance vis-à-vis morphological subtypes of adjectives can be seen from the observation

reported in Morita (2013), who echoes Backhouse's (1984) earlier discussion, that classes of length (*nagai, mizikai*), height (*takai, hikui*), speed (*hayai, osoi*), depth (*hukai, asai*), width (*hiroi, semai*), weight (*omoi, karui*), and temperature (*atui, samui*) are occupied by ordinary adjectives. These are all dimensional adjectives associated with a standard system of numerical measurement. Morita goes on to suggest that the semantic properties of scale structure discussed in detail by Kennedy and McNally (2005) in relation to degree modifiers in English are also relevant for the distribution of ordinary adjectives, adjectival nouns, and deverbal forms with *ta* in Japanese, at least as a tendency. Thus, the morphological choice among the three subtypes is not arbitrary but is affected by semantics. Though it may not be realistic to try to remove arbitrariness completely in this domain, we should not exclude the possibility that morphological choice is telling us something about semantic details of adjectival classes.

## 5 Conclusion

In this chapter, I have put together various threads of research bearing on the nature of attributive modification in Japanese. In order to elucidate the structural basis of this construction, we need to pay close attention to the diversity of modification relations, classification of adjectival and non-adjectival modifiers involved, and properties of degree modification. I hope to have shown that attributive modification lies at a crossroads of a multitude of research areas.

A particularly noteworthy point to reiterate at the end of our discussion is the existence of non-finite adjectival modifiers. The conclusion is not surprising once direct modification is shown to be available. But the fact that Japanese can use non-finite indirect adjectival modifiers of a reduced relative type leads us to believe that Japanese and languages like English do not differ much in the structural resources that can be recruited for attributive modification.

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## 22 Scrambling

### 1 Introduction

Word order is flexible in Japanese. While the verb must appear at the end of the sentence, phrases including DP, PP, and CP can move to a clause-initial position without affecting the original proposition. The following examples exhibit typical cases of this movement: from the canonical word order in (1a), the object DP *hon o* ‘a book’ is scrambled in (1b), the PP *tukue no ue ni* ‘on the desk’ in (1c), and both the DP and the PP together in (1d).<sup>1</sup>

- (1) a. *Taroo ga tukue no ue-ni hon o oita koto*  
Taro NOM desk GEN top on book ACC put fact  
‘Taro put a book on the desk.’
- b. *Hon o<sub>i</sub> [<sub>TP</sub> Taroo ga tukue no ue ni t<sub>i</sub> oita] koto*  
book ACC Taro NOM desk GEN top on put fact  
‘A book, Taro put on the desk.’
- c. *Tukue no ue ni<sub>j</sub> [<sub>TP</sub> Taroo ga t<sub>j</sub> hon o oita] koto*  
desk GEN top on Taro NOM book ACC put fact  
‘On the desk, Taro put a book.’
- d. *Hon o<sub>i</sub> tukue no ue ni<sub>j</sub> [<sub>TP</sub> Taroo ga t<sub>j</sub> t<sub>i</sub> oita] koto*  
book ACC desk GEN top on Taro NOM put fact  
‘A book, on the desk, Taro put.’

This free word order phenomenon derives from what is called ‘scrambling’ (Ross 1967). As in (1), it is scrambling that is responsible for the syntactic reordering of constituents in the structure (Kuroda 1965; Muraki 1974; Inoue 1976; Harada 1977; Shibatani 1978; Haig 1980; Miyara 1982; Saito and Hoji 1983; Takano 1998; among others).<sup>2</sup> To be more precise, the movement in (1) is termed short-distance (SD) scrambling because it occurs within the same clause or tense phrase (TP).

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1 It is common practice to add a morphological item such as *koto* ‘the fact that’ or the sentence-final particle (SFP) *yo* to the end of some sentences in order to make them sound more natural. These additions are ignored in the translations.

2 The example in (1d) exhibits a typical case of multiple scrambling. Note also that an entire CP may undergo scrambling in Japanese: For example, (ib) is derived by scrambling the embedded object CP, *Hanako ga uso o tuita to* ‘that Hanako told a lie’ in (ia) to the sentence-initial position.

Japanese also allows a phrase such as DP and PP to move out of the clause where it is generated, landing in the initial position of a higher clause. This out-of-the-clause movement is called long-distance (LD) scrambling (Haig 1976; Harada 1977; Kuroda 1980; Hoji 1985; Saito 1985). Examples in (2b) and (2c) represent typical occurrences of LD in Japanese.

- (2) a. *Taroo ga* [<sub>CP</sub> [<sub>TP</sub> *Mary ga Ken kara yubiwa o*  
Taro NOM Mary NOM Ken from ring ACC  
*moratta*] *to*] *kiita koto*  
received that heard fact  
'Taro heard that Mary received a ring from Ken.'
- b. *Yubiwa o<sub>i</sub>* [<sub>TP</sub> *Taroo ga* [<sub>CP</sub> [<sub>TP</sub> *Mary ga Ken kara t<sub>i</sub>*  
ring ACC Taro Nom Mary NOM Ken from  
*moratta*] *to*] *kiita*] *koto*  
received that heard fact  
'A ring, Taro heard that Mary received from Ken.'
- c. *Ken kara<sub>i</sub>* [<sub>TP</sub> *Taroo ga* [<sub>CP</sub> [<sub>TP</sub> *Mary ga t<sub>i</sub> yubiwa o*  
Ken from Taro NOM Mary NOM ring ACC  
*moratta*] *to*] *kiita*] *koto*  
received that heard fact  
'From Ken, Taro heard that Mary received a ring.'

In (2b), the DP *yubiwa o* 'ring' moved from the embedded object position to the matrix clause-initial position; in (2c), the PP *Ken kara* 'from Ken' moved from the embedded locative argument position to the matrix clause-initial position. Both sentences are grammatical without their original meanings being affected.

Since Saito and Hoji (1983) proposed that Japanese is a configurational language with a VP node, contrary to Hale's (1980) flat structure hypothesis, scrambling has attracted considerable attention from researchers working in Japanese linguistics. Particularly, what it is that motivates this movement has been such an intriguing

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- (i) a. *Taroo ga sensei ni* [<sub>CP</sub> [<sub>TP</sub> *Hanako ga uso o tuita*] *to*] *itta*  
Taro NOM teacher to Hanako NOM lie ACC told COMP said  
'Taro said to the teacher that Hanako told a lie.'
- b. [<sub>CP</sub> [<sub>TP</sub> *Hanako ga uso o tuita*] *to*]<sub>i</sub> *Taroo ga sensei ni t<sub>i</sub> itta*  
Hanako NOM lie ACC told that Taro NOM teacher to said  
'That Hanako told a lie, Taro said to the teacher.'

question in Japanese syntax that many theoretical analyses and conceptual views have been proposed in the literature (Miyagawa and Saito, 2008: Introduction). It is beyond the scope of this chapter to discuss every aspect of scrambling together with all of these analyses, hypotheses, and proposals particular to the phenomenon. We will limit our discussion to the investigation of several important issues pertinent to the ‘optionality’ of scrambling, as seen in (1) and (2) above.<sup>3</sup> In so doing, section 2 will present the empirical core data and review how optional scrambling is manifested in Japanese, thereby laying out some crucial issues for our discussion in this chapter. Section 3 will consider the presence vs. absence of weak crossover effects in relation to A- vs. A'-movement. Section 4 will focus on the semantic aspects of vacuous movement related to radical reconstruction. Section 5 will discuss two recent focus-topic proposals for scrambling from the perspective of left periphery effects. Section 6 will contain concluding remarks on what motivates scrambling in Japanese.

## 2 Core Data

### 2.1 Optional Movement

It has long been acknowledged in the literature that scrambling is optional (Saito 1985; Hoji 1985; Kuroda 1988; Miyagawa 2003, 2011; to name a few). That is, unlike *wh*-movement in English, a *wh*-phrase may stay in situ in Japanese. As an illustration, compare the following pairs of sentences.

- (3) a. *\*John bought what at the store?*  
       b. *What did John buy at the store?*
- (4) a. *Taroo ga sono mise de nani o katta no*  
       Taro NOM the store at what ACC bought Q  
       ‘Taro bought what at the store.’
- b. *Nani o<sub>i</sub> Taroo ga sono mise de t<sub>i</sub> katta no*  
       what ACC Taro NOM the store at bought Q  
       ‘What did Taro buy at the store?’

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<sup>3</sup> This chapter does not intend to investigate the properties of VP-internal scrambling due to the limitations of space. See Saito (1985) and Nemoto (1999) for detailed discussions of issues and problems involved in this unique scrambling.

The contrast in grammaticality in (3) shows that in English a *wh*-phrase (*what* in this case) must move to the clause-initial position. However, such contrast does not emerge in Japanese regardless of whether a *wh*-phrase (*nani* ‘what’ in this case) stays in-situ in (4a) or moves to the clause-initial position in (4b). This difference thus confirms that scrambling is optional whereas *wh*-movement is obligatory.

A similar contrast can also be observed between *wh*-movement and scrambling with respect to LD movement.

- (5) a. \**John thinks that Mary bought what at the store.*  
 b. *What does John think that Mary bought at the store?*
- (6) a. *Taroo wa [CP [TP Mary ga sono mise de nani o*  
       Taro TOP Mary NOM the store at what ACC  
*katta] to] omotte iru no*  
       bought that thinking is Q  
       (Lit.) ‘Taro thinks that Mary bought what at the store.’
- b. *Nani o<sub>i</sub> [Taroo wa [CP [TP Mary ga sono mise de t<sub>i</sub>*  
       what ACC Taro TOP Mary NOM the store at  
*katta] to] omotte iru] no*  
       bought that thinking is Q  
       ‘What does Taro think that Mary bought at the store?’

Unlike the contrast in (5), grammaticality results in both sentences in (6) without respect to whether *nani* ‘what’ stays in-situ in the embedded object position or undergoes LD scrambling from the embedded object position to the matrix clause-initial position. This confirms that optionality is also relevant to LD scrambling in Japanese.

Particular to the optional scrambling vs. obligatory *wh*-movement is the fact that in addition to *wh*-phrases, non-*wh* phrases such as lexical DP and PP may also undergo scrambling, as already seen in (1)–(2) above. This point is confirmed in (7).

- (7) a. *Hanako ga syuppansya ni genkoo o okutta yo*  
       Hanako NOM publisher to manuscript ACC sent SFP  
       ‘Hanako sent a manuscript to the publisher.’
- b. *Genkoo o<sub>i</sub> Hanako ga syuppansya ni t<sub>i</sub> okutta yo*  
       manuscript ACC Hanako NOM publisher to sent SFP  
       ‘A manuscript, Hanako sent to the publisher.’
- c. *Syuppansya ni<sub>i</sub> Hanako ga t<sub>i</sub> genkoo o okutta yo*  
       publisher to Hanako NOM manuscript ACC sent SFP  
       ‘To the publisher, Hanako sent a manuscript.’

The sentence in (7a) exhibits the basic word order. The object DP *genkoo o* ‘manuscript’ and the locative PP *syuppansya ni* ‘to the publisher’ in (7) are not *wh*-phrases, but move to the initial position of the clause via scrambling, as in (7b) and (7c), respectively. This property is presumably relevant to the optionality of scrambling.

## 2.2 Multiple Movement

Another unique property of scrambling in Japanese is that more than one phrase may be moved clause-initially at once in SD scrambling (Saito 1985). For example, the following derivations exhibit scrambling of both the DP and the PP within the same clause in (8).

- (8) a. *Genkoo o<sub>i</sub> syuppansya ni<sub>j</sub> [Hanako ga t<sub>j</sub> t<sub>i</sub> okutta] fact*  
 manuscript ACC publisher to Hanako NOM sent koto  
 ‘A manuscript, to the publisher, Hanako sent.’
- b. *Syuppansya ni<sub>j</sub> genkoo o<sub>i</sub> [Hanako ga t<sub>j</sub> t<sub>i</sub> okutta] fact*  
 publisher to manuscript ACC Hanako NOM sent koto  
 ‘To the publisher, a manuscript, Hanako sent.’

The order of multiple SD scrambling does not induce any significant difference with respect to the basic sentence meaning: In (8a) the PP *syuppansya ni* ‘to the publisher’ moves first and then the object DP *genkoo o* ‘manuscript’ whereas in (8b) the order was reversed. No particular semantic distinction arises between these two scrambled constructions.

Note that *wh*-movement cannot move more than one phrase in English due to the “attract one phrase” principle. On the contrary, Japanese does not put such a restriction on the scrambling of *wh*-phrases. Compare (9) with (10), for example.

- (9) a. *What<sub>i</sub> did John send t<sub>i</sub> to who?*  
 b. *\*What<sub>i</sub> who<sub>j</sub> did John send t<sub>i</sub> to t<sub>j</sub>?*
- (10) a. *Nani o dare ni Taroo ga okutta no*  
 What ACC who to Taro NOM sent Q  
 ‘What to who did Taro sent?’
- b. *Dare ni nani o Taroo ga okutta no*  
 who to what ACC Taro NOM sent Q  
 ‘To whom, what did Taro sent?’

The ungrammaticality of (9b) confirms that more than one *wh*-phrase cannot undergo movement at once. On the contrary, the grammaticality of (10) indicates that the object DP *nani o* ‘what’ and the dative DP *dare ni* ‘to whom’ can be scrambled simultaneously, without reference to which *wh*-phrase moves first.<sup>4</sup> This asymmetry between the two languages points to the issue of the landing site of each movement, which will be discussed later.

However, the situation is different for long-distance scrambling. According to Koizumi (2000), multiple scrambling is barred in LD movement in Japanese. As an illustration, consider examples in (11). (11a) is an LD example of (8b), and (11b) is taken from Koizumi (2000).

- (11) a. ?\**Syuppansya ni<sub>j</sub> genkoo o<sub>i</sub> [Taroo ga [Hanako ga*  
           publisher to manuscript ACC Taro NOM Hanako NOM  
           *t<sub>j</sub> t<sub>i</sub> okutta to] itta] koto*  
           sent that said fact  
           ‘To the publisher, a manuscript, Taro said that Hanako sent.’
- b. ?\**Masami ni<sub>j</sub> Hawaii de<sub>i</sub> [John ga [Kiyomi ga*  
           Masami DAT Hawaii in John NOM Kiyomi NOM  
           *t<sub>i</sub> t<sub>j</sub> purezento o katta to] omotte iru] koto*  
           present ACC bought that believing is fact  
           ‘For Masami, in Hawaii, John believes that Kiyomi bought a present.’

Both sentences in (11) are ungrammatical because the LD scrambling of both DP and PP out of the embedded clause to the matrix clause-initial position is assumed to violate Subjacency (Chomsky 1986; Lasnik and Saito 1992).<sup>5</sup>

Nevertheless, multiple LD scrambling can improve if the two scrambled phrases are bundled together in such a way that they form an intonation phrase, as first

<sup>4</sup> With the grammaticality of sentences like (10), Japanese scrambling seems to be immune to Radford’s (2004) Attract Closest Principle, unlike English *wh*-movement.

<sup>5</sup> Note, however, that Saito (1989) accepts the following examples of LD multiple scrambling.

- (i) a. *Sono hon o<sub>i</sub> Bill ni<sub>j</sub> [Mary ga [John ga t<sub>j</sub> t<sub>i</sub> watasita to] omotte iru]*  
           that book ACC Bill to Mary NOM John Nom handed that thinking is  
           ‘Mary thinks that John handed that book to Bill.’
- b. *Bill ni<sub>j</sub> sono hon o<sub>i</sub> [Mary ga [John ga t<sub>j</sub> t<sub>i</sub> watasita to] omotte iru]*  
           Bill to that book ACC Mary NOM John NOM handed that thinking is

Saito (1989: footnote 15) further mentions that multiple LD scrambling results in some awkwardness for some native speakers of Japanese. He attributes such unnaturalness to the two occurrences of focus because the two phrases (*sono hon* ‘that book’ and *Bill ni* ‘to Bill’), which underwent LD scrambling, often receive focus interpretation.

noted in Koizumi (1991, 2000). That is, if a prosodic boundary (/) occurs after the two scrambled phrases or before the matrix subject DP, as illustrated in (12), then (11a), for example, becomes acceptable on the intended reading.

- (12) *Syuppansya ni<sub>j</sub> genkoo o<sub>i</sub> / [Taroo ga [Hanako ga t<sub>j</sub> t<sub>i</sub>*  
 publisher to manuscript ACC Taro NOM Hanako NOM  
*okutta to] itta] koto*  
 sent that said fact  
 ‘Taro said that Hanako sent a manuscript to the publisher.’

A crucial factor responsible for the acceptability in this case seems to be that, with the appropriate prosodic boundary (/), the two scrambled object DPs are phonologically treated as if they were a single constituent in the clause-initial position. In an attempt to explain this apparent improvement in multiple LD scrambling, Koizumi (2000) proposes a syntactic vacuous verb raising on the assumption that the scrambled phrase is a VP headed by the trace of a raised verb.

However, Takano (2002) presents several pieces of empirical evidence against the verb raising hypothesis, arguing for his oblique movement as a plausible account of the phenomenon in question. In contrast, Fukui and Sakai (2003) claim that this improvement obtains as a result of morphological merger (Marantz 1988) on the view that scrambling applies to a single constituent resulting from morphological merger and reanalysis of the relevant multiple phrases in the PF component.<sup>6</sup> In short, the grammatical upgrading particular to multiple LD scrambling has increasingly attracted attention in the recent literature as an interesting topic in Japanese syntax. See Koizumi (2000), Takano (2002), and Fukui and Sakai (2003) for their individual proposals in more detail.

## 2.3 Subject Movement

An exception to this optionality is the impossibility of subject scrambling. Since Saito’s (1985) observation, it has generally been assumed in the literature that subjects cannot undergo scrambling in Japanese.

<sup>6</sup> A PF reanalysis or a prosodic scrambling seems to me to be an interesting hypothesis. However, what motivates such PF merger or movement is still unclear. Further, a question remains with respect to whether the PF application of Move  $\alpha$  is available only in multiple LD scrambling or it is also possible in SD scrambling.

- (13) a. *Sakana wa Taroo ga [tai ga umai to] itta koto*  
 fish TOP Taro NOM red snapper NOM delicious that said fact  
 ‘As for fish, Taro said that red snapper is delicious.’  
 b. \**Sakana wa tai<sub>i</sub> ga Taroo ga [t<sub>i</sub> umai to] itta koto*  
 fish TOP red snapper NOM Taro NOM delicious that said fact
- (14) a. *Hanako ga [kyoo dare ga tanzyoobikai ni kuru to]*  
 Hanako NOM today who NOM birthday party to come that  
 ‘Who does Hanako think is coming to today’s birthday party?’  
*omotte iru no*  
 thinking is Q  
 ‘Who does Hanako think is coming to today’s birthday party?’  
 b. \**Dare<sub>i</sub> ga Hanako ga [kyoo t<sub>i</sub> tanzyoobikai ni kuru to]*  
 who NOM Hanako NOM today birthday party to come that  
*omotte iru no*  
 thinking is Q

The subjects (*tai* ‘red snapper’ and *dare* ‘who’) undergo scrambling to the matrix clause from within the embedded clause, thereby inducing ungrammaticality in both sentences. This ban is only imposed on the scrambling of subject DPs, not the scrambling of object DPs and PPs, as seen in our previous examples.

According to Saito (1985), in examples like (13b)–(14b), the ungrammaticality is due to Case. That is, in order for a subject DP to receive nominative Case, it must stay where it is base-generated, i.e. a [TP, Spec] position in the structure because nominative Case assignment is “inherent” in Japanese. However, if we follow Takezawa’s (1987) hypothesis that T plays an important role in assigning nominative *ga* to the subject (see also Watanabe 1993; Ura 1994; Miyagawa 1997), the Case approach would lose its appeal. Conversely, if we assume, with Fukui (1986) and Kuroda (1988), that the subject is generated and can stay in an VP-internal position ([VP, Spec] or [vP, Spec]) in Japanese, T has nothing to do with nominative Case assignment in the language. Therefore, there must be something else that bars the subject from undergoing scrambling.<sup>7</sup>

Relevant to this point is Agbayani, Golston, and Ishii’s (2015) recent observation that a nominative subject can scramble long distantly if it moves together with another phrase. Examples in (15) are taken from Agbayani, Golston, and Ishii (2015).

<sup>7</sup> We will present a further discussion relevant to this issue later in the discussion.



- (15) a. *Sono ressyai ga Tokyo ni, [John ga [t<sub>i</sub> t<sub>j</sub> tuita to] omotte iru]*  
 that train NOM Tokyo in John NOM arrived that thinking is  
 'John thinks that the train has arrived in Tokyo.'
- b. *Syatyoo no hoosin<sub>i</sub> ga syain no urami<sub>j</sub> o*  
 president GEN policy NOM employee GEN hostility ACC  
*[John ga [t<sub>i</sub> t<sub>j</sub> katte iru to] omotte iru]*  
 John NOM earning is that thinking is  
 'John thinks that the president's policy is making an enemy of the employees.'

Together with the subject DP, the locative PP (*Tokyo ni* 'in Tokyo') and the object DP (*syain no urami* 'employees' hostility') are scrambled to the matrix clause-initial position from within the embedded clause. Agbayani, Golston, and Ishii note that although the scrambling of the subject DP (*sono ressyai* 'the train' and *syatyoo no hoosin* 'president's policy') alone results in ungrammaticality, these sentences are readily acceptable. Their explanation for this acceptability is prosodic scrambling, claiming that a ban on subject scrambling is relevant in the syntax, not in the phonology. In short, this scrambling takes place in the PF component, not in the narrow syntax.

Although this is an interesting observation, it is unclear what motives such prosodic scrambling in Japanese.<sup>8</sup> Further, it is worth pointing out that the ungrammatical sentences involve a linear order of *-ni/o -ga -ga*, as in (13)–(14), whereas the acceptable sentences contain a linear order of *-ga -ni/o -ga*, as in (15). One might wonder if this different constituent order leads to the difference in grammaticality between the two sentence pairs at hand. In these examples in particular, by breaking up the sequence of two *ga*-marked DPs, the *ni/o*-marked DP may allow the sentence to escape a violation of the constraint on subject scrambling.<sup>9</sup> In short,

<sup>8</sup> Sentences in (15) are the only examples that Agbayani, Golston, and Ishii (2015) presented in relation to the scrambling of subjects.

<sup>9</sup> Relevant examples are given in (i). ((ia) = a reversed order of the two DPs in (14a)).

- (i) a. *\*Tokyo ni, sono ressyai ga [John ga [moo t<sub>i</sub> t<sub>j</sub> tuita to] omotte iru]*  
 Tokyo in that train NOM John NOM already arrived that thinking is  
 'John thinks that the train has already arrived in Tokyo.'
- b. *\*Tokyo ni, tomodati<sub>i</sub> ga [John ga [moo t<sub>i</sub> t<sub>j</sub> tuita to] omotteiru]*  
 Tokyo in Mary NOM John NOM already arrived that thinking is  
 'John thinks that (his) friend has already arrived in Tokyo.'

The resulting example sentence in (ia) sounds degraded relative to (14a) even though it is slightly better than (ib). That is, it is relatively easier for *John* to take the embedded predicate *tuita* 'arrived' even though *sono ressyai* 'the train' cannot do the thinking.

whether the subject proves possible or impossible to move syntactically or prosodically in Japanese continues to remain open for future research.

Given these unique properties of optionality, scrambling is often referred to as a purely stylistic movement.<sup>10</sup> According to this view, nothing linguistically triggers the movement. However, if we follow the core idea of the Minimalist Program (Chomsky 1991, 1993, 1995, 2000) that movement needs to be computationally efficient, such stylistic optionality would be called into question. With this in mind, we will start our next discussion with an examination of the presence vs. absence of weak crossover effects in relation to A-movement nature of scrambling in Japanese.

### 3 Weak Crossover and A-Scrambling

In this section, we will first take a look at weak crossover (henceforth WCO) facts and then consider their implications for the A- vs. A'-movement problem in Japanese.<sup>11</sup>

#### 3.1 Weak Crossover

WCO is a constraint on possible binding and coreference between a pronoun and a quantified DP (henceforth QP) (Postal 1993). Consider, for example, the following sentence pairs.

(16) a. *Everyone<sub>i</sub> loves his<sub>i</sub> mother.*

b. *\*?His<sub>i</sub> mother loves everyone<sub>i</sub>.*

(17) a. *Who<sub>i</sub> loves his<sub>i</sub> mother?*

b. *\*?Who<sub>i</sub> does his<sub>i</sub> mother love?*

The pronoun *his* can be construed as a variable bound by the QP *everyone* and by *who* in the (a) sentences of (16) and (17) whereas it cannot be interpreted as a bound variable in the (b) sentences. We are assuming that the WCO constraint, as formulated in (18) (Jaeggli 1984), applies at LF after QP raising.

(18) *A pronoun cannot be locally A-bar bound.*

<sup>10</sup> Put differently, the stylistic view proposes that scrambling does not seem to be a feature-driven movement (Chomsky 1995).

<sup>11</sup> This subsection deals with WCO effects only in SD scrambling. We postpone our investigation of similar effects in LD scrambling until they become relevant in the discussion.

At LF, the trace of *everyone* can A-bind *his* in (16a) whereas the operator *everyone* must function as an A'-binder for the pronoun in (16b); similarly, the trace of *who* can A-bind *his* in (17a) whereas the operator *who* A'-bind the pronoun in (17b). Consequently, (18) is met in the (a) examples, and on the contrary, it is violated in the (b) examples, with a WCO effect appearing.

Since Saito and Hoji (1983), it has been acknowledged that a WCO phenomenon also exists in Japanese.<sup>12</sup>

- (19) a. *Subete no kuni<sub>i</sub> ga soko<sub>i</sub> no noosanbutu o hogositeiru*  
 every GEN country NOM there GEN agricultural product ACC protect  
 'Every country protects its own agricultural products.'
- b. \*?*Soko no<sub>i</sub> noosanbutu ga subete no kuni<sub>i</sub> ni*  
 there GEN agricultural product NOM every GEN country for  
 'For every country, its own agricultural products are valuable.'  
*totte taisetu da*  
 valuable is  
 'For every country, its own agricultural products are valuable.'

The pronoun *soko* 'there' can be construed as a bound variable being coreferential with the QP *subete no kuni* 'every country' in (19a) whereas it cannot yield such interpretation in (19b) due to a WCO effect because the QP does not c-command the pronoun in the structure.

More significantly for the present discussion, it has been observed in Yoshimura (1989, 1992) and Saito (1992) that WCO effects can be neutralized by means of scrambling. Examples in (20) illustrate this point.<sup>13</sup>

- (20) a. \*<sub>[DP</sub> [*pro<sub>i</sub> hitome pro<sub>j</sub> atta*] *hito<sub>i</sub>*] *ga dare<sub>j</sub> o sukini-natta no*  
 pro one glance pro met person NOM who ACC like-became Q  
 (Lit.) 'The person who had a glance at (him<sub>i</sub>) fell in love with who<sub>j</sub>?'  
 b. *Dare<sub>j</sub> o* [<sub>[DP</sub> [*pro<sub>i</sub> hitome pro<sub>j</sub> atta*] *hito<sub>i</sub>*] *ga t<sub>j</sub> sukini-natta*] *no*  
 who ACC pro one glance pro met person NOM like-became Q  
 \*'Who<sub>j</sub> did the person who had a glance at (him<sub>i</sub>) fall in love with?'

<sup>12</sup> Note in passing that in these WCO examples, we are unable to use either *kare* 'he', because it cannot become a bound variable (Hoji 1991), or *zibun* 'self', because it must take a subject DP as its antecedent (subject orientation) (Kuno 1973).

<sup>13</sup> Although (20b) is a "parasitic variable" example Hoji (1985) considered among others, it is re-analyzed as a "parasitic pronoun" in Yoshimura (1989). Throughout this discussion, we are assuming that the null category at hand can be a pro in Japanese.

(20a) yields a WCO effect because, being in the object position, the trace of *dare* ‘who’ cannot bind the object *pro* within the relative clause in the subject position, thereby inducing a WCO effect as a violation of (18). However, the grammaticality of (20b) suggests that the scrambling of *dare* ‘who’ to the clause-initial position can help the *pro* in question avoid the WCO effect, which would otherwise violate the constraint.

A similar WCO cancellation also emerges in the interpretation of overt pronouns. Examples in (21) are from Yoshimura (1992).

- (21) a. \*?*[[pro<sub>i</sub> sore<sub>j</sub> o tukutta] hito<sub>i</sub>] ga paatii ni*  
           *pro it ACC made person NOM party to*  
           *[susi ka tempura]<sub>j</sub> o mottekita*  
           *sushi or tempura ACC brought*  
           ‘The person who made it<sub>j</sub> brought [sushi or tempura]<sub>j</sub> to the party.’
- b. *[Susi ka tempura]<sub>j</sub> o [[pro<sub>i</sub> sore<sub>j</sub> o tukutta] hito<sub>i</sub>]*  
       *sushi or tempura ACC pro it ACC made person*  
       *ga paatii ni t<sub>j</sub> mottekita*  
       *NOM party to brought*  
       ‘[Sushi or tempura]<sub>j</sub>, the person who made it<sub>j</sub> brought t<sub>j</sub> to the party.’

The overt pronoun *sore* ‘it’ cannot be construed as a bound variable in (21a) because *susi ka tempura* ‘sushi or tempura’ does not c-command it. Note that the QP occurs in the object position within the subject relative clause. On the contrary, the grammaticality of (21b) indicates that *sore* can take the QP as its antecedent in this case. Again, the scrambling leads to the cancellation of a potential WCO in the latter case.

### 3.2 Scrambling as A-Movement

This WCO cancellation phenomenon has attracted much attention in recent literature, and a widely adopted view is that clause-internal scrambling (like those in (20)–(21)) can be A-movement in Japanese.<sup>14</sup> As a point of departure, our discussion is based on Kuroda’s (1988) insights of Japanese as a non-agreement language.

<sup>14</sup> This proposal departs from the traditional view that scrambling is an A’-adjunction to IP (or TP) (Saito 1985; Hoji 1985). In particular, Saito (1992) assumes, following Mahajan (1990) for scrambling in Hindi, that SD scrambling can be A-movement whereas LD scrambling must be A’-movement in Japanese. His arguments are based on lexical anaphor binding in addition to WCO. The present discussion uses WCO facts because there is not a solid agreement among native speakers of Japanese as to whether *otagai* ‘each other’ is a true anaphor in Japanese, like *each other* in English (Hoji 1991). See Abe (1994) for arguments against A/A’ distinction in scrambling.

- (22) a. *The subject can stay in the vP-internal position in Japanese.*  
 b. *Scrambling can land in the [TP, Spec] position.*  
 c. *The [TP, Spec] position is an A-position.*

By extending the vP internal subject hypothesis (Koopman and Sportich 1991) to Japanese phrase-structure, Kuroda hypothesizes that since Japanese is not an agreement language, the subject DP can stay inside vP, without moving to TP, Spec, as in (22a). Kuroda also assumes, as in (22b), that nothing prevents scrambling from taking place in the [TP, Spec] position when it is available in the structure. (22c) is not a far-fetched hypothesis given that a subject DP is raised to that position in an agreement language like English in narrow syntax.

Based on (22), (21b) is schematically represented as in (23).

- (23)  $[_{TP} [_{Spec} \text{Susi ka tempura}] o]_j [_{T'} [_{vP} [_{Spec} [_{VP} \text{sore}_j o V] \text{hito}] \text{ga} [_{VP} t_j V]$   
 sushi or tempura ACC it ACC person NOM

Here we assume that the subject relative clause stays in [vP, Spec]. Being in the [TP, Spec] position, the QP can be an A-binder for the pronoun *sore*, thereby canceling a potential WCO effect. Thus, the variable interpretation of *sore* being bound by *susi ka tempura* can be accounted for straightforwardly. If this line of analysis is on the right track, we can posit that the optionality of scrambling is closely related to the uniqueness of [TP, Spec] in Japanese.

### 3.3 What Triggers Optional A-Movement?

Two subsequent questions that arise: how unique [TP, Spec] is in Japanese and how this uniqueness can be related to the occurrence of optional A-scrambling. Relevant to the first question is the widely acknowledged fact that Japanese permits a multiple subject construction (Kuno 1973; Inoue 1976; Shibatani 1978; to name a few). Examples in (24) are those from Kuno (1973).

- (24) a. *Kono kurasu ga dansei ga dekiru*  
 this class NOM men NOM do well  
 ‘In this class, male students do well.’  
 b. *Yama ga ki ga kirei desu*  
 mountain NOM tree NOM beautiful are  
 ‘In the mountain, trees are beautiful.’

There are two nominative *ga*-marked DPs in each sentence. The sentence-initial *ga*-marked DPs (*kono kurasu* ‘this class’ in (24a) and *yama* ‘mountain’ in (24b)) induce a so-called “exhaustive listing” subject reading while the other *ga*-marked DPs (*dansei* ‘men’ in (24a) and *ki* ‘tree’ in (24b)) have a neutral subject reading. Kuno

(1973) considers the exhaustive listing subject to be as a result of subjectivization (but see Shibatani 1978) whereas Kuroda (1980, 1988) regards it as being a “major subject” or “broad subject” (Heycock and Doron 2003; Heycock 2008). On either view, it is empirically confirmed that Japanese permits multiple subjects. Further, if we assume, following Stowell (1989), that subjects are specifiers, it is theoretically possible to have multiple Specs in the structure. Given these, it then follows that [TP, Spec] is for scrambling as [vP, Spec] is for the regular subject in Japanese.

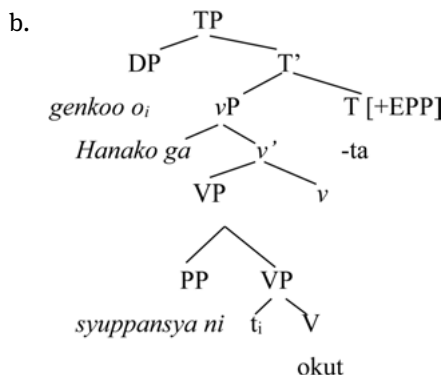
As for the second question, we first assume that the [TP, Spec] position is an A position in the structure (Kuroda 1988; Yoshimura 1989; Saito 1992; to name a few). As seen in (24), this suggestion is supported by the fact that a major subject can be generated in that position in addition to the regular subject in [vP, Spec] in Japanese. Suppose, then, that we basically adopt the following ideas of Miyagawa (2001, 2003) for scrambling.<sup>15</sup>

(25) a. *Scrambling is triggered by the EPP feature on T.*<sup>16</sup>

b. *A-scrambling is EPP-driven.*

More specifically, we maintain that when nothing occupies the [TP, Spec] position, a phrase can move into that position according to the EPP. As an illustration, consider the derivation of our previous example (7b).

(26) a. *Genkoo o<sub>i</sub> Hanako ga syuppansya ni t<sub>i</sub> okutta (= (7b))*  
 Manuscript ACC Hanako NOM publisher to sent  
 ‘A manuscript, Hanako sent to the publisher.’



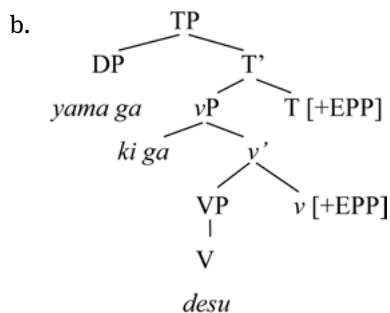
<sup>15</sup> Miyagawa (2001) assumes that EPP-driven A scrambling is made possible via V-raising to T, and Miyagawa (2003) further assumes that V-raising to T is required for Case marking reason because Accusative Case on the scrambled object in (25), for example, should be licensed by T. However, we do not intend to adopt the raising hypothesis and continue to assume that Accusative Case is assigned by the verb.

<sup>16</sup> The EPP (extended projection principle) stipulates that every clause must have a subject (Chomsky 1981, 1982, 1995).

As seen in (26b), as the subject stays in [*vP*, Spec], the scrambled object can land in [*TP*, Spec], thereby meeting the requirement of the EPP on *T*.

On the other hand, suppose that scrambling does not take place. In such a case, it is not possible to check the EPP-feature if we continue to assume that it is on *T*. Yet, on the *vP*-internal subject hypothesis coupled with Kuroda's (1988) agreement vs. non-agreement proposal, it is plausible to assume that the EPP-feature can be on *v* in Japanese (Saito 2006). Although it is an open question whether an EPP-feature can indeed be assigned to more than one head in the structure, nothing prevents Japanese from having the feature on *T* as well as *v* because it is a non-agreement language and permits a multiple subject construction. On this view, (24b) is represented as in (27b).

- (27) a. *Yama ga ki ga kirei desu* (= (24b))  
       ‘In the mountain, trees are beautiful.’



The major subject *yama* ‘mountain’ satisfies the EPP-feature on *T* whereas the regular subject *ki* ‘tree’ meets the EPP-feature on *v*. If this analysis is on the right track, the optionality of scrambling in Japanese is closely related to the presence or absence of the [+EPP] feature on *T* relative to the obligatory appearance of it on *v* in the language.

A few remarks are in order with respect to Saito's (2006) arguments against the EPP-feature driven analysis of scrambling. He examines examples like (28) as counter-evidence to Miyagawa's (2001, 2003) EPP-based proposal for A-scrambling.

- (28) a. *Hanako<sub>i</sub> ga Taroo<sub>j</sub> o zibun<sub>i/\*j</sub> no ie de sikatta koto*  
       Hanako NOM Taro ACC self GEN house at scolded fact  
       ‘Hanako<sub>i</sub> scolded Taroo<sub>j</sub> at her<sub>i</sub>/\*his<sub>j</sub> house.’
- b. *Taroo o<sub>j</sub> [Hanako<sub>i</sub> ga t<sub>j</sub> zibun<sub>i/\*j</sub> no ie de sikatta] koto*  
       Taro ACC Hanako NOM self GEN house at scolded fact  
       (Lit.) ‘Taroo<sub>i</sub>, Hanako<sub>j</sub> scolded him<sub>i</sub> at her<sub>j</sub>/\*his<sub>i</sub> house.’

In (28a), *zibun* ‘self’ must have *Hanako* as its antecedent, not *Taroo*, due to its unique subject-orientation property (see Kuroda 1965; Kuno 1973; Inoue 1976; among others).

This antecedent asymmetry does not change in (28b) when the *o*-marked *Taroo* is scrambled clause-initially. This fact indicates that accusative *o*-marked *Taroo* cannot function as an antecedent for *zibun*. According to Saito's analysis, this impossibility would indicate that the scrambled phrase cannot be a subject. More particularly, his discussion proceeds to mention that the object DP would not land in [TP, Spec] to meet the [+EPP] feature on T, so scrambling would not be EPP-driven movement.<sup>17</sup>

Particularly significant for this observation is whether a phrase generated in the position above [vP, Spec] can be an antecedent for *zibun* 'self' in Japanese. Consider relevant examples in (29).

- (29) a. *Taroo<sub>j</sub> wa [Hanako<sub>i</sub> ga zibun<sub>i/\*j</sub> no ie de pro<sub>j</sub> sikatta] koto*  
           Taro TOP Hanako NOM self GEN house at scolded fact  
           'Speaking of Taro, Hanako scolded him at her house.'
- b. *Taroo<sub>j</sub> wa [Hanako<sub>i</sub> ga zibun<sub>i/\*j</sub> no kuruma de eki*  
           Hanako TOP Taro NOM self GEN car in station  
           *made pro<sub>j</sub> okutta] yo*  
           to sent SFP  
           'Speaking of Taro, Hanako gave him a ride to the station.'

Crucially, *zibun* cannot have the *wa*-marked topic DP (*Taroo*) as its antecedent even though it is generated in the position above the [vP, Spec] position; the antecedent must be the *ga*-marked subject DP (*Hanako*), as in the translation. This shows a locality effect (Minimal Distance Principle (Rosenbaum 1967) or Relativized Minimality (Rizzi 1990)), namely, the subject-orientation property of *zibun* induces a blocking or intervention effect for the link between the topic DP and the anaphor *zibun*.<sup>18</sup>

If we assume that this is exactly what happens in (28b), the impossibility of the scrambled *o*-marked DP being an antecedent of *zibun* can be attributed to the subject-orientation nature of the anaphor. That is to say, it is not the scrambling of the DP into [TP, Spec], but the presence of an intervening *ga*-marked DP that is responsible for the ungrammaticality of the sentence. Further, the following paradigm is interesting (Miyagawa 2003).

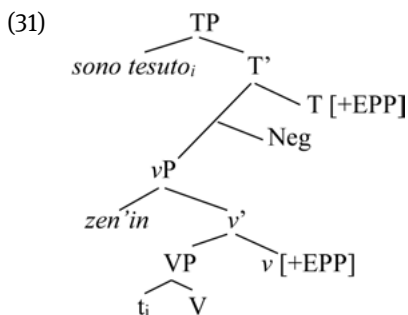
<sup>17</sup> Instead, Saito (2009) posits a functional head Th (for 'theme') above TP, thereby assuming that the first constituent is attracted to its Spec position. He does not explicitly identify the landing site, but according to his tree diagram, it seems that scrambling first takes place in a TP adjoined position and is then attracted to Th, Spec. He assumes that if scrambling does not occur, the subject is moved to that position. As such, his view of scrambling does not appeal to the EPP feature at all, but what motivates this attraction seems to be left open for future research.

<sup>18</sup> See Nishigauchi (2012, 2014) for detailed discussion of other instances of blocking effects relative to the point-of-view or logophoric aspects of *zibun* 'self' in Japanese.



- (30) a. *Zen'in ga sono tesuto o uke-na-katta (yo)*  
 all NOM that test ACC take-not-PST SFP  
 'All did not take that exam.'  
 (All > Not, \*Not > All)
- b. *Sono tesuto o<sub>i</sub> zen'in ga t<sub>i</sub> uke-na-katta (yo)*  
 that test ACC all NOM take-not-PST SFP  
 'That exam, all did not take.'  
 (All > Not, Not > All)

The structural difference is that in (30b) *sono tesuto* 'that test' is scrambled clause-initially from the object position in (30a), inducing a crucial semantic distinction between the two sentences. In the former case, the QP *zen'in* 'all' takes wide scope over negation whereas in the latter case it produces narrow scope as well. This ambiguity between total negation and partial negation can be accounted for on the assumption that [TP, Spec] is in the position c-commanding the [+Neg] feature, as schematically represented in (31) (Miyagawa 2003).<sup>19</sup>



Based on the hypothesis that a subject is not raised to [TP, Spec] and remains in [vP, Spec] together with the availability of multiple subjects, scrambling into [TP, Spec] is made possible in Japanese. Put differently, it is plausible to postulate that the optionality of scrambling is due to the optionality of the [+EPP] feature on T in the language.<sup>20</sup>

<sup>19</sup> See Saito (2009) for a different view of the wide vs. narrow scope of the QP in (29).

<sup>20</sup> Miyagawa (2003) attributes the option of the OSV order, as in (26), to the availability of morphological Case marking (Kuroda 1988) relative to T in Japanese. But a different suggestion is presented in Miyagawa (2005a) with regard to the nature of [TP, Spec]. We will return to this issue in section 5.

## 4 Vacuous Movement

Saito (1989) explores an interesting discovery with respect to the semantic aspect of scrambling in Japanese, which is commonly referred to as the “semantically vacuous movement” proposal. This finding has been influential in advancing the investigation of the nature of scrambling in Japanese linguistics. In this section, we will consider what his important proposal says about the optionality of scrambling operation by reviewing the core data and arguments for and against this hypothesis.

### 4.1 Saito’s Discovery (1989)

Saito (1989) is the first researcher to note that scrambling in Japanese may be undone when the semantic interpretation is at stake. His exploration starts with the following paradigm in (32) pertinent to the Proper Binding Condition (PBC), which requires that traces be bound (Fiengo 1977).

- (32) a.  $[_{TP1}$  John ga  $[_{CP}$   $[_{TP2}$  dare ga sono hon o katta] ka]  
           John NOM                   who NOM that book ACC bought Q  
           *siritagatteiru*] koto  
           want to know fact  
           ‘John wants to know who bought that book.’
- b.  $*[_{TP1}$  Dare ga  $[_{CP}$   $[_{TP2}$  John ga sono hon o katta] ka]  
           who NOM                   John NOM that book ACC bought Q  
           ‘Who wants to know John bought that book?’  
           *siritagatteiru*] koto  
           want to know fact  
           ‘Who wants to know John bought that book?’

By assuming that the PBC applies at LF, we now consider the LF representation of each sentence, as given in (33).<sup>21</sup>

- (33) a.  $[John\ ga\ [[t_i\ sono\ hon\ o\ katta]\ dare_i\ ga]\ siritagatteiru]\ koto$   
           b.  $*[t_i\ ga\ [[John\ ga\ sono\ hon\ o\ katta]\ dare_i\ ga]\ siritagatteiru]\ koto$

<sup>21</sup> With the following and other pieces of evidence, Saito (1989) argues that radical reconstruction is not permitted in English.

- (i) a. ??*Who<sub>i</sub> do you wonder [which picture of  $t_{ij}$ ] John likes  $t_{ij}$ ?*  
       b. *\*[Which picture of  $t_{ij}$ ] do you wonder who<sub>i</sub> John likes  $t_{ij}$ ?*

The *ga*-marked *wh*-phrase *dare* ‘who’ is moved to the C position of the embedded CP in each case. As such, the LF trace of *dare* ( $t_i$ ) is properly bound in (33a), satisfying the PBC, whereas it is free in (33b), violating the constraint. With the PBC account for asymmetry such as that in (32), Saito confirms that the PBC applies to scrambling in Japanese in the same way as *wh*-movement in English.

More importantly for the present discussion, Saito points out that an expected PBC violation does not emerge in examples like (34).

- (34) a. <sup>?</sup>*[Dono hon o<sub>i</sub> [TP<sub>1</sub> Mary ga [CP [TP<sub>2</sub> John ga t<sub>i</sub> tosyokan kara karidasita] ka] siritagatteiru]] koto*  
           which book ACC Mary NOM John NOM  
           library from checked.out Q want to know fact  
           ‘Which book, Mary wants to know John checked out from the library.’
- b. <sup>??</sup>*[[CP<sub>2</sub> [TP<sub>3</sub> John ga dono hon o tosyokan kara John NOM which book ACC library from karidasita] to]<sub>i</sub> [TP<sub>1</sub> Mary ga [CP<sub>1</sub> [TP<sub>2</sub> minna checked out that Mary NOM everyone ga t<sub>i</sub> omotteiru] ka] siritagatteiru]] koto*  
           NOM think Q want to know fact  
           (Lit.) ‘That John checked out which book from the library, Mary wants to know everyone thinks.’

The sentence in (34a) should be excluded because Japanese requires a *wh* to be licensed within the scope of *ka*, the Q-marker in the language: In this case, *dono hon* ‘which library’ is assumed to move twice: first within the embedded CP, and then to the sentence-initial position, which is outside the scope of *ka*. That is, the second movement should result in ungrammaticality because the *wh* at hand is unable to be licensed by *ka*.<sup>22</sup> Nevertheless, the sentence is grammatical. Similarly, the sentence in (34b) shows that the entire CP is scrambled from the object position of the embedded clause (TP<sub>2</sub>) to the initial position of the matrix sentence (TP<sub>1</sub>). Again, ungrammaticality should appear in this case as well because *dono hon* is outside the scope of *ka*. But the sentence is accepted as being marginal.

<sup>22</sup> On this point, Saito (1989) assumes that chain binding (Barss 1986) is irrelevant. On the other hand, Saito (2010) proposes a different view with respect to chain interpretation as follows: With Huang (1982), the *wh* moves into [CP, Spec] within the embedded clause, and it is at this position that the *wh* is interpreted before it moves into the embedded sentence-initial position. He mentions that this analysis can provide a unified account for such reconstruction effects of long-distance scrambling. If the matrix sentence-initial position is on par with that of topicalization, it would have to be an A'-position because movement into the embedded [CP, Spec] position must be A'-movement, hence not scrambling, to be exact.

Saito (1989) proposes a “radical reconstruction” operation at LF as an account for the avoidance of a PBC effect. That is to say, the scrambled phrase, either *wh* or non-*wh*, can radically move back to the base-generated position at LF. On this assumption, the LF structure of (34a) after reconstruction is exactly the same one as that before scrambling, as shown in (35).

- (35)  ${}^?[_{TP1}$  *Mary ga* [ $_{CP}$  [ $_{TP2}$  *John ga dono hon o<sub>i</sub> tosyokan*  
           Mary NOM           John NOM which book ACC library  
           *kara karidasita]* *ka]* *siritagatteiru]] koto*  
           from checked out Q want to know fact

As seen in (35), the *wh* moves back to the position of its trace. Based on these LF effects, Saito (1989) posits that scrambling can be viewed as a semantically vacuous movement in Japanese. On his view, radical reconstruction effects are limited to LD A'-scrambling such as those in (32) and (34) because it is A'-adjoined to the matrix TP.<sup>23</sup>

## 4.2 Miyagawa's Proposal (2003, 2005b)

Miyagawa (2005b) explores the issue of semantically vacuous scrambling based on his EPP-driven scrambling hypothesis. According to his analysis, the following pair of examples constitute evidence against Saito's (1989) view that scrambling is undone, thereby escaping from a PCB violation.

- (36) a. *John ga [Mary ga nani o katta ka]] siritagatteiru koto*  
           John NOM Mary NOM what ACC bought Q want to know fact  
           ‘John wants to know what Mary bought.’  
       b.  ${}^?Nani o_i$  [*John ga [Mary ga t<sub>i</sub> katta ka]* *siritagatteiru]* *koto*  
           what ACC John NOM Mary NOM bought Q want to know fact  
           ‘What, John wants to know Q Mary bought.’

In (36a) the *wh nani* ‘what’ stays in situ within the embedded clause whereas in (36b) it is scrambled long-distance out of the embedded clause to the matrix clause-initial position. Miyagawa (2005b) points out that the scrambling of *nani* in (36b) may undergo radical reconstruction through [CP, Spec] inside the embedded

<sup>23</sup> Saito (1989) assumed that a major subject (*kono kurasu* ‘this class’ and *yama* ‘mountain’ in (24)) is generated in a TP adjoined position, and this position is an A'-position because it is not a base-generated position. On this A' view, he argues that radical reconstruction is made possible only to A'-movement. On the other hand, Saito (1992, 2009) claims that SD scrambling is A-movement whereas LD scrambling is A'-movement, thereby permitting only the latter movement to be reconstructed at LF. We will deal with this issue in more detail in Section 5.

clause (Takahashi 1993), like *wh*-movement in English. This moving-back operation is not triggered to avoid a PCB violation because the principle is irrelevant in (36b). Nevertheless, the *wh* in question is reconstructed in the base-generated position ( $t_i$ ) within the embedded clause, inducing an indirect question. Again, this shows that scrambling is undone at LF, a semantically vacuous movement, although the ‘undoing’ is not motivated by the PBC in this case (see also Bošković 2004).

Although Miyagawa (2005b) mentions that Saito’s (2004) reconstruction discovery can provide support for Kuroda’s (1988) view of Japanese as a “non-forced agreement” language, he argues that radical reconstruction occurs only if a quantifier is moved by illicit optional movement. A crucial example is given in (37).<sup>24</sup> Given that quantifier raising is clause-bound, the scrambling of *daremo* ‘everyone’ from the embedded object position to the matrix clause-initial position is deemed illicit.

- (37) *Daremo<sub>i</sub> o dareka ga [Tanaka ga t<sub>i</sub> aisite iru to] itta koto*  
 everyone ACC someone NOM Tanaka NOM loving is that said fact  
 ‘Everyone, someone thinks that Tanaka loves.’  
 (someone > everyone, \*everyone > someone)

For this reason, the QP must be reconstructed to the trace position ( $t_i$ ). Miyagawa maintains that an example like (37) is a true case of radical reconstruction in Japanese.<sup>25</sup>

### 4.3 Reconstruction and Scrambling

We now reexamine empirical evidence that reconstruction is barred in the case of SD scrambling. Consider again examples in (30), as repeated in (38).

- (38) a. *Zen’in ga sono tesuto o uke na katta (yo)*  
 all NOM that test ACC take.not.PST SFP  
 ‘All did not take that exam.’  
 (All > Not, \*Not > All)
- b. *Sono tesuto o<sub>i</sub> zen’in ga t<sub>i</sub> uke na katta (yo)*  
 that test ACC all NOM take.not.PST SFP  
 ‘That exam, all did not take.’  
 (All > Not, Not > All)

This interesting paradigm (Miyagawa 2001, 2003, 2005a, 2005b) demonstrates that, if the SD scrambled *sono tesuto* ‘that test’ were reconstructed to the position of its

<sup>24</sup> (37a) is one of the sentences discussed in Oka (1989) and Tada (1993).

<sup>25</sup> Miyagawa questions whether radical reconstruction can be PF scrambling, contra Saito’s (1989) LF approach to the operation.

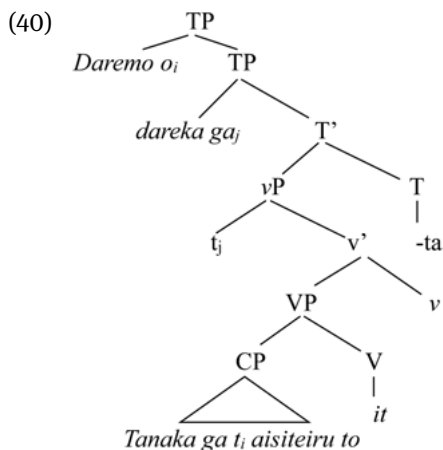
trace ( $t_i$ ), the resulting structure would be parallel to that of (38a), which should result in the cancellation of the scope ambiguity, contrary to fact. That (38b) can also induce total negation (all > not) confirms that reconstruction does not take place in SD scrambling.

This ban on reconstruction is also supported by the long-acknowledged asymmetry relative to the QP scrambling in the literature (Kuroda 1971; Kuno 1973).

- (39) a. *Dareka ga daremo o aisite iru*  
 someone NOM everyone ACC loving is  
 'Someone loves everyone.'  
 (some > every, \*every > some)
- b. *Daremo<sub>i</sub> o dareka ga t<sub>i</sub> aisite iru*  
 everyone ACC someone NOM loving is  
 'Everyone, someone loves.'  
 (some > every, every > some)

Again, the scrambled object QP *daremo* 'everyone' can induce a wide scope over the subject QP *dareka* 'someone' in (39b). This scope ambiguity is on par with that in (38), thereby providing supporting evidence for the ban on reconstruction in SD scrambling.

A question arises concerning how we can account for the impossibility of reconstruction in SD scrambling, unlike LD scrambling, as in (33) and (34). We saw in Section 3 that SD scrambling can be A-movement in Japanese. Several suggestions have been made in the literature. One proposal is Saito's (1992) view that LD scrambling is A'-movement to a position adjoined to the [TP, Spec] position (Mahajan 1990). On this TP-adjunction account, the structure of the relevant part of (37) will be as in (40).



At LF the scrambled *daremo* ‘everyone’ radically moves back to the trace position ( $t_i$ ) within the CP in the matrix object position, resulting in the canonical word order.<sup>26</sup>

Furthermore, Saito (2006) suggests that SD scrambling can also be A'-movement. According to his analysis, a sentence like (41) constitutes crucial evidence.<sup>27</sup>

- (41) a. *Taroo ga zibunzisin o semeta koto*  
           Taro   NOM self       ACC blamed fact  
           ‘Taro blamed himself.’
- b. *Zibunzisin o<sub>i</sub> Taroo ga t<sub>i</sub> semeta koto*  
           self       ACC Taro   NOM   blamed fact  
           ‘Himself, Taro blamed.’

The bound interpretation of *zibunzisin* ‘self’ by *Taroo* is possible in (41b) as well as in (41a). This indicates that the reflexive must move back to the trace position ( $t_i$ ), thereby inducing the bound variable interpretation in (41b) as well. Therefore, SD scrambling can be A'-movement on the assumption that reconstruction cannot be available for A-movement.<sup>28</sup>

Turning to the previous examples in (38), repeated in (42), we reconsider Miyagawa's (2003, 2005a, 2005b, 2006) options-without-optionality approach to scrambling.

- (42) a. *Zen'in ga sono tesuto o uke-na-katta (yo)*  
           all    NOM that test   ACC take-not-PST SFP  
           ‘All did not take that exam.’  
           (All > Not, \*Not > All)

<sup>26</sup> In this derivation, the subject moves to the [TP, Spec] position due to the EPP.

<sup>27</sup> It has been a standard practice in the literature to use *otagai* ‘each other’ binding as a linguistic tool to see whether scrambling can be reconstructed at LF. However, there is a view that *otagai* is not an anaphor on par with *each other* in English (Hoji 2006). We therefore focus upon *zibun/zibunzisin* ‘self’ binding in this discussion.

<sup>28</sup> However, one wonders whether May's (1977) Quantifier Lowering can apply to A-movement across the board. Fox (1999) considers the following pair of sentences to illustrate that the subject-to-subject raising structure can be reconstructed.

- (i) a. <sup>??</sup>[His<sub>i</sub> father] wrote to every boy<sub>i</sub> [PRO<sub>i</sub> to be a genius].  
       b. [His<sub>i</sub> father]<sub>j</sub> seems to every boy<sub>i</sub> [t<sub>j</sub> to be a genius].

The general assumption is that the matrix subject *his father* in (ib) is raised from the embedded subject position to receive a Case. The sentence is grammatical on the interpretation that the pronoun *his* can be construed as being bound to *every boy*. This points to the possibility that the raised subject *his father* is reconstructed in the trace position within the embedded infinitive clause. See Bošković (1998) and Takahashi (1998) and Bošković (2004) for arguments in support of the LF lowering analysis of scrambling and also Miyagawa (2006) for arguments against their LF lowering approach to scrambling.

- b. *Sono tesuto*  $o_i$  *zen'in ga*  $t_i$  *uke-na-katta* (yo)  
 that test ACC all NOM take-not-PST SFP  
 'That exam, all did not take.'  
 (All > Not, Not > All)

As seen in the above, one of the crucial facts here is that total negation emerges in (42b) with the scrambled object DP *sono tesuto* in the clause-initial position. Put differently, Miyagawa claims that the two relevant word orders, i.e. SOV in (42a) and OSV in (42b), are permitted in Japanese. He supports this core idea based on the two properties of the language, namely: (a) The EPP feature on T attracts SD scrambling, regardless of the structural role of the relevant DP in the sentence, subject, object, or dative, and (b) morphological Case markings are licensed by Tense, regardless of the Case type, nominative, accusative, or dative in the language. To be more specific, as noted in (31), the object DP agrees with the EPP feature on T, whereas the subject DP agrees with the EPP feature on  $v$  in (42b).<sup>29</sup> Thus, EPP-driven A-scrambling is not reconstructed on the assumption that the trace of *sono tesuto* ( $t_i$ ) is "invisible" for LF interpretation.

As for LD scrambling, Miyagawa (2001, 2003, 2005a, 2005b) postulates that it must only be A'-movement because it cannot be EPP-driven, like in Hindi (Mahajan 1990). A crucial example is given in (43) (Miyagawa 2003).

- (43) *Syukudai*  $o_i$  *zen'in ga* [*sensei ga*  $t_i$  *dasu to*] *omowanakatta*  
 homework ACC all NOM teacher NOM assign that thought not  
 'Homework, all did not think that the teacher will assign.'  
 (all > not, \*not > all)

Unlike the SD scrambling case in (38b), the sentence does not yield a scope ambiguity; only total negation is available in this case. Miyagawa takes this (and other) evidence to show that the object DP is reconstructed in the original position ( $t_i$ ) at LF. Again, on the assumption that A-movement cannot be reconstructed, his proposal is that LD scrambling occurs into a position above TP (Miyagawa 1997),<sup>30</sup> so it cannot be A-movement.

#### 4.4 Summary

To wrap up this section, several important proposals have been suggested to deal with the core facts pertinent to scrambling as a semantically vacuous phenomenon in Japanese. One common view in the literature is that unlike SD scrambling, LD

<sup>29</sup> As for the structure of (42a), Miyagawa assumes that the subject DP moves to TP, Spec in order to meet the EPP requirement on T.

<sup>30</sup> In the next section, we will consider in which structural position "above TP" LD scrambling takes place in Japanese.



scrambling yields a semantically vacuous movement because it is A'-movement and can be reconstructed at LF. In dealing with this semantically vacuous operation, at least two analyses have been presented from the viewpoint of its landing site. In one analysis, the landing site for LD scrambling is a position adjoined to TP. Given that this position is a newly created position, not a base-generated one, it must be deleted, thereby forcing scrambling to be undone at LF. In the other analysis, the landing site is [TP, Spec] because the movement is triggered by the EPP feature on T under the *vP*-internal subject hypothesis. This view claims that quantifier movement must be local, and as such, LD scrambling must be subject to radical reconstruction, neutralizing an illicit long distance movement at LF.

As for SD scrambling, there are two distinct hypotheses for its derivation. One idea is that SD scrambling can be either A- or A'-movement, and the other is that it is A-movement. Again, the choice of one over the other proposal depends upon whether this type of movement involves an adjunction operation or an EPP-driven operation. The former induces an optional operation, whereas the latter induces an obligatory operation. Although both proposals assume that SD scrambling occurs within the relevant TP, they differ with respect to what position the phrase lands in within the relevant TP. The A-movement hypothesis maintains that the landing site is a [TP, Spec] position whereas the A'-movement hypothesis insists that it is a TP-adjunction site.

## 5 Left Peripheral Effects

Recent advances in the study of scrambling have significantly shifted the research focus from what effects scrambling can or cannot induce on interpretations to how scrambling can interact with semantics, discourse, and prosody in arriving at interpretations.<sup>31</sup> This body of work has paid particular attention to the left peripherality of scrambling, thereby raising important issues at the interface between syntax and discourse (e.g. Neeleman and Reinhart 1998; Saito 2004; Hiraiwa 2010; Miyagawa 2010; Neelman and Vermeulen 2012). A general consensus of the literature seems to be that scrambling in Japanese reflects the syntactic, semantic, and pragmatic derivations in an integrated way. In this section, we further advance our understanding of the nature of scrambling by considering left periphery effects at the syntax-discourse interface.

### 5.1 Saito (2010): Scrambling as Topicalization

A look at the discourse-semantics effects of scrambling reveals that two similar but distinct hypotheses have been made with respect to the syntactic position on the left

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<sup>31</sup> See Lasnik and Saito (1984) for a detailed discussion of the effects of Move  $\alpha$  (e.g. *wh*-movement and scrambling) in the traditional terms of Government and Binding (Chomsky 1973, 1981).

periphery: one proposal is that scrambling is on par with topicalization, whereas the other is that it behaves like focalization. We will first consider Saito's (2010) topicalization approach. Although a detailed description of this complex approach is beyond the scope of this subsection, we will focus on his basic idea in relation to the left periphery effects of scrambling.<sup>32</sup> We saw in the previous section that scrambling is semantically vacuous movement. Nevertheless, Saito mentions that the operation affects the thematic interpretation of the sentence. Regarding this point, consider first (44), which shows that a PP can become a topic by moving into the clause-initial position.

- (44) a. *Taroo ga Hanako to Hokkaidoo e itta koto*  
 Taro NOM Hanako with Hokkaido to went fact  
 'Taro went to Hokkaido with Hanako.'
- b. *Hanako to<sub>i</sub> wa Taroo ga t<sub>i</sub> Hokkaidoo e itta koto*  
 Hanako with TOP Taro NOM Hokkaido to went fact  
 'Speaking of Hanako, Taro went to Hokkaido with her.'
- c. *Hokkaidoo e<sub>j</sub> wa Taroo ga Hanako to t<sub>j</sub> itta koto*  
 Hokkaido to TOP Taro NOM Hanako with went fact  
 'Speaking of Hokkaido, Taro went there with Hanako.'

It is generally acknowledged in the literature (Kuroda 1965; Kuno 1973; Heycock 2008) that the case particle *wa* can make a phrase a thematic topic in Japanese. Interestingly, Saito (1985) shows that the *wa*-marked PP must undergo scrambling whereas the *wa*-marked DP can be base-generated even though both phrases are at the left edge of the sentence.<sup>33</sup> Thus, the topic PP (*Hanako to* 'with Hanako' in (44b) and *Hokkaidoo e* 'to Hokkaido' in (44c)) is scrambled to the clause-initial position. More significantly for the present discussion, this scrambling affects the interpretation of the sentence, thereby inducing a topic interpretation for the PP in question.

A question arises with respect to the landing site of this topic-inducing movement. It is clear from the word order in (44b–c) that the PP topic is above the TP. According to Saito's analysis, there is a higher functional projection called *PredP* above TP, the left edge of which is dedicated for scrambling.<sup>34</sup> On this account, the relevant structure is schematically represented, as in (45) (based on his (61)).

<sup>32</sup> This discussion examines Saito's (2010) analysis. See Saito (2003, 2004, 2005, 2010) for his analyses which lead to his topicalization hypothesis of scrambling.

<sup>33</sup> This asymmetry is supported based on Subjacency facts. See Saito (1985) for a detailed discussion. *Wa* can also induce a contrastive topic interpretation (Hoji 1985).

<sup>34</sup> Saito (2010: footnote 8) mentions that *Pred* is higher than TP so that it can capture the theme-rheme relation in traditional terms.

(45) [<sub>PredP</sub> *Hokkaidoo e wa*<sub>i</sub> [<sub>Pred'</sub> [<sub>TP</sub> [<sub>Taro</sub> *ga* [<sub>T'</sub> [<sub>vP</sub> ... *t<sub>i</sub>* ... ] *T*]]] *Pred*]]

The crucial assumption here is that scrambling can occur in the left edge of PredP, thereby assigning the [top] feature to the scrambled PP. Note that the subject remains in [TP, Spec] in the structure.

As such, Saito (2010) continues to assume that scrambling is not EPP-triggered movement. To support his claim, Saito examines the sentence pair in (46).

- (46) a. *Sono hon wa Taro ga (kyonen) katta*  
           that book TOP Taro NOM (last year) bought  
           ‘Speaking of that book, Taro bought it (last year).’  
       b. *Sono hon o Taro wa (kyonen) katta*  
           that book ACC Taro TOP last year bought  
           ‘Taro bought that book last year, but I don’t know about other books.’  
           \*‘Speaking of that book, Taro bought it (last year).’

According to his analysis, when the topic *sono hon* ‘that book’ remains thematic with the feature [top] in (46a), it is in [PredP, Spec]. However, when the object *sono hon* ‘that book’ is scrambled sentence-initially, it must move to the left edge of PredP with the feature [arg] because the [PredP, Spec] is filled with the *wa*-marked subject. His analysis concludes that the EPP feature has nothing to do with scrambling, contrary to Miyagawa (2001). It is the [arg] feature on the edge of CP or PredP that triggers scrambling.

## 5.2 Miyagawa (2012): Scrambling as Focalization

Based on Kuroda’s (1988) agreement parameter, Miyagawa (2006) proposes that Japanese is a focus prominent language whereas English is an agreement prominent language. More specifically, Miyagawa (2012) claims that focus movement is triggered by the EPP feature (Chomsky 1981) on the left edge of TP or CP. Structural details aside, his focus analysis works as follows: When a topic appears on the left edge of TP, it remains with the [-focus] feature, thereby filling its Spec position to meet the EPP. Yet, when a scrambled constituent fills the position, the [-focus] feature changes to [+focus] on the left edge. Put differently, topic and focus share the same feature, with either value of + or -: Topicalization occurs when the feature has its default value, and scrambling occurs when it is marked (Miyagawa 2012).

On his [+/-focus] approach, Miyagawa assumes the following two sentences to have similar representations, thereby inducing a topic interpretation.

- (47) a. *Taroo wa susi o tabeta (yo)*  
 Taro TOP sushi ACC ate SFP  
 ‘As for Taro, he ate sushi.’
- b. *Susi o<sub>i</sub> Taroo ga t<sub>i</sub> tabeta (yo)*  
 sushi ACC Taro NOM ate SFP  
 ‘Sushi, Taro ate.’

That is, the topic *Taroo* in (47a) and the scrambled *sushi-o* in (47b) occur on the left edge, and for Miyagawa (2005a, 2005b, 2006, 2010), the EPP feature is [-focus] in both sentences. Therefore, both are the two instances of topicalization. His analysis claims that when a DP-*mo* object is shifted, focalization results, as in the following sentence:

- c. *Susi mo<sub>i</sub> Taroo ga t<sub>i</sub> tabeta*  
 sushi also Taro NOM ate  
 (Lit.) ‘Sushi also, Taro ate.’

Given that *mo* lexically induces a marked meaning for the given DP (Kuroda 1971), this scrambling leads to focalization.

Miyagawa (2010) further explores his view by proposing that a scrambled constituent may be focalized if it is associated with an identificational (“narrow”) focus intonation, but it must be interpreted as a topic when it receives a default or neutral intonation. As such, a sentence like (48) may be a double focus construction if a narrow focus intonation is assigned to the scrambled object DP even if it is moved to the sentence second position of the clause.

- (48) *John ni mo<sub>i</sub> Taroo to Hanako o<sub>j</sub> otagai<sub>j</sub> no*  
 John DAT also Taro and Hanako ACC each other GEN  
*tomodati ga t<sub>i</sub> t<sub>j</sub> syookaisita.*  
 friend NOM introduced  
 ‘To John also, Taro and Hanako, each other’s friends introduced.’

Importantly, if the object DP at hand is given a neutral intonation, the sentence becomes a one focus and one topic construction. This difference implies that focalization does not refer to syntax; topicalization vs. focalization is a lexically or prosodically driven phenomenon.<sup>35</sup>

<sup>35</sup> Within Miyagawa’s (2010) framework, we need to assume that in multiple subject constructions like (24), *ga* attached to the exhaustive subject is a lexical focus morpheme like *mo* ‘also’ in (48).

Miyagawa (2011) extends his “focalization” analysis of scrambling. Although he continues to assume that scrambling is triggered by the EPP feature on T, he additionally claims that this EPP can only be satisfied in conjunction with focus. Based on É Kiss’s (1998) distinction between identificational focus and information focus,<sup>36</sup> Miyagawa proposes that the *mo* object DP in (47c) and (48) receives an identificational focus interpretation. As argued for in Miyagawa’s previous analysis, regular scrambling is a manifestation of information focus.<sup>37</sup> Consider, for example, the following yes/no question and answer dialog from Miyagawa (2011).

- (49) a. *Taroo ga hon o kaimasita ka*  
           Taro NOM book ACC bought Q  
           ‘Did Taro buy a book?’
- b. *Hai, Taroo ga kono hon o kaimasita*  
      yes Taro NOM this book ACC bought  
      ‘Yes, Taro bought this book.’
- c. *Hon o<sub>i</sub> Taroo ga t<sub>i</sub> kaimasita*  
      book ACC Taro NOM bought  
      (Lit.) ‘A/The book, Taro bought.’

According to his analysis, in (49b), *Taroo* is a topic, and the entire predicate provides new information. In (49c), when the scrambled object DP does not carry a “focus” feature, the rest of the sentence conveys new information because, according to the nuclear stress rule (Cinque 1993), the main stress falls on *Taroo*.

In short, if nothing is able to meet the EPP feature of T, scrambling raises a constituent to this left edge position, [TP, Spec]. This view is contrary to Saito (2010), as seen in the preceding subsection. For Miyagawa, this scrambling induces a topic/focus interpretation if it does not carry identificational focus. It is thus claimed that syntax simply feeds its output to the information structure at the relevant interface in order for the sentence to be interpreted, with no direct link being established between syntax and information structure (Chomsky 2008).

### 5.3 Some Implications

We agree to some extent with the two alternate views that scrambling behaves like topicalization or focalization as they occur on the left periphery, providing a sense of “being thematic” or “being focused” for the relevant constituent. Irrespective of

<sup>36</sup> This distinction is often referred to as contrastive focus vs. information focus (Heycock 2008; É Kiss 1988; Neeleman and Vermeulen 2012).

<sup>37</sup> We will return to the issue concerning information focus vs. identificational focus shortly in the following section.

which position we would adopt on the issue, it seems to be the case that Japanese permits two derivations for topicalization/focalization: either base-generation or movement. As seen in the above, scrambling is a syntactic operation, either A- or A'-movement, whereas topicalization with *wa* or focalization with *ga* has been considered as a base-generated phenomenon in the traditional grammar. Subsequently, an issue would be how the nature of scrambling can be distinct from that of topicalization/focalization in the language? Another issue pertains to the old vs. new information, that is, topicalization always carries old information, unlike scrambling. More importantly, previous discussions have been pursued comparing scrambling with *wh*-movement as an instance of Move  $\alpha$ . A further issue is to reinvestigate whether scrambling in Japanese plays a more functional role than we expected at the syntax-discourse interface. To conclude, we will take a look at a few of these issues.

Recall Saito's topicalization approach to scrambling. He assumes that topicalization and scrambling take place in the same structural position, the left edge of PredP, and that topicalization occurs in accordance with the [top] feature at the left periphery while scrambling is triggered by the [arg] feature on the left periphery.<sup>38</sup> However, under a discourse notion, topicalization always carries old information, unlike scrambling (see Mikami 1960; Noda 1996 for the *wa* vs. *ga* distinction). For example, a *wh* or quantified phrase (QP) cannot be topicalized, but can be scrambled.

- (50) a. *Nani<sub>i</sub> o Taroo ga t<sub>i</sub> katta no*  
           What ACC Taro NOM bought Q  
           'What did Taro buy?'  
       b. *Nani<sub>i</sub> wa Taroo ga t<sub>i</sub> katta no*  
           what TOP Taro NOM bought Q  
           'What is it that Taro bought?'
- (51) a. *Daremo<sub>i</sub> o dareka ga t<sub>i</sub> aisite iru koto*  
           everyone-ACC someone-NOM loving is fact  
           'Everyone<sub>i</sub>, someone loves him<sub>i</sub>.'  
       b. \**Daremo<sub>i</sub> wa dareka ga t<sub>i</sub> aisite iru koto*  
           everyone TOP someone NOM loving is fact  
           'Speaking of everyone<sub>i</sub>, someone loves him<sub>i</sub>.'

In (50a), the object *wh* phrase *nani* 'what' is scrambled, and the sentence is grammatical. In contrast, the *wa*-marked *nani* cannot be thematic, but must be contrastive,

<sup>38</sup> Saito's (2010) analysis permits multiple Specs for Pred if they are all topics. By analogy, there would be no reason to assume that multiple Specs, PredP are impossible if they are all for scrambling, although he does not explicitly mention this possibility.

as shown in the translation of (50b). Similarly, in (51a) the scrambling of the QP *daremo* ‘everyone’ results in grammaticality whereas in (51b), the topicalization of it with *wa*-marking results in ungrammaticality. In other words, scrambling does not behave like topicalization in this respect.

Another issue concerns the impossibility of topicalization within the relative clause in Japanese (Yoshimura and Nishina 2010).

- (52) a. *Taroo ga [[Hanako ga/\*wa pro<sub>i</sub> tukutta] susi<sub>i</sub>] o tabetesimatta*  
 Taro NOM Hanako NOM/TOP made sushi ACC have.eaten  
 ‘Taro has eaten the susi Hanako made.’
- b. *Taroo wa [[Hanako ga/\*wa kekkonsita] koto] o kiite, gakkarisita*  
 Taro TOP Hanako NOM/TOP married fact ACC hear disappointed  
 ‘Taro was disappointed to hear that Hanako got married.’

Each sentence in (52) demonstrates that within the relative clause, *ga*-marking is possible for the subject, but *wa*-marking is impossible for the topic. It is thus clear that topicalization is not permitted inside a relative clause.

On the contrary, scrambling is possible within a relative clause in the language.

- (53) a. *Taroo ga [[Ziroom ni<sub>i</sub> Hanako ga t<sub>i</sub> pro<sub>j</sub> okutta]*  
 Taro NOM Jiro DAT Hanako NOM sent  
*tyokoreeto<sub>j</sub>] o tabetesimatta*  
 chocolate ACC have.eaten  
 ‘Taro has eaten the chocolate that to Jiro, Hanako sent.’
- b. *Taroo wa [[sensyu Ziroom to<sub>i</sub> Hanako ga t<sub>i</sub> kekkonsita]*  
 Taro TOP last week Jiro with Hanako NOM married  
*koto] o kiite, gakkarisita*  
 fact ACC hear disappointed  
 ‘Taro was disappointed to hear that last week, with Jiro, Hanako got married.’

Scrambling occurred from the position of  $t_i$  by moving *Ziroom ni*, the dative DP of the verb *okutta* ‘sent’ in (53a), and *Ziroom to*, the PP of the verb *kekkonsita* ‘married’ in (53b), to the initial position of the relative clause, respectively. Both sentences are grammatical. Again, scrambling shows different behavior from topicalization.

There are also empirical issues for Miyagawa’s focalization approach yet to be clarified in further research. As generally acknowledged, focus is a discourse notion for prominence in the information structure whereas scrambling is a syntactic operation for change in the word order. Furthermore, given that a narrow focus can be implemented by means of *ga*-marking in Japanese (Kuno 1973; Heycock 2008), we

would like to know how focus induced by scrambling differs from focus produced by *ga*-marking. It is also interesting to see how *ga*-marking can interact with scrambling in the sentence. One problem relevant to this question is Tomioka's (2010) interesting observation concerning an apparent interpretative difference between the following sentence pair in (54).

- (54) a. *Kono torakku ni atarasii enzin ga aru*  
           this truck in new engine NOM exist  
           Locative meaning: 'There is a new engine in this truck.'  
           Part-whole meaning: 'This truck has a new engine.'
- b. *Atarasii enzin ga kono torakku ni aru*  
           new engine NOM this truck in exist  
           Locative meaning: 'There is a new engine in this truck.'  
           ???Part-whole meaning: 'This truck has a new engine.'

An interpretive ambiguity emerges in the *ni-ga* order in (54a) whereas it disappears in the *ga-ni* order in (54b). Important for the present discussion, *kono torakku ni* 'in this truck' in (54a) can be interpreted as a topic, but does not have to have a focus reading (Heycock 2008). If it is indeed a topic, the PP in question must not be scrambled to the clause-initial position on the focalization hypothesis. Recall that PP scrambling must be induced via scrambling if we follow the common view (Saito 1985; Kuroda 1986). However, given that the topic marker *wa* is not attached to it, can we still entertain the possibility of the scrambled PP in (54a)? Such a conflicting problem needs to be reexamined.<sup>39</sup>

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**39** Intuitively speaking, the focalization approach to scrambling seems to be more promising usage-wise than the topicalization approach because the topic marker *wa* is more productive than the focus marker *ga* in communication. For example, *ga* is only available for the raising of a possessive or locative DP, as noted in Kuno (1976).

- (i) a. *Yamada sensei no musuko ga daigaku ni haitta*  
       Yamada teacher GEN son NOM college in entered  
       'Mr. Yamada's son entered the college.'
- b. *Yamada sensei ga musuko ga daigaku ni haitta*  
       Yamada teacher FOC son NOM college in entered  
       'MR. YAMADA, his son entered the college.'
- (ii) a. *Taroo no sensei ga kodomo o sikatta*  
       Taro GEN teacher NOM child ACC scolded  
       'Taro's teacher scolded the child.'
- b. \**Taroo ga sensei ga kodomo o sikatta*  
       Taro FOC teacher NOM child ACC scolded  
       'Taro, his teacher scolded the child.'



## 6 Conclusion

In this chapter, we reviewed major works on scrambling in Japanese to identify such important issues as optionality, the A/A' distinction, semantically vacuous movement, and radical reconstruction. We also provided a brief review of the left peripheral effects in the recent advances in the theory of scrambling. Our investigation of scrambling in Japanese first started based on the research findings relative to *wh*-movement in English. Then, our efforts examined the properties unique to Japanese scrambling. Nevertheless, we still have some further issues and questions yet to be clarified in future research. One such issue that emerged throughout this discussion is what really distinguishes scrambling from *wh*-movement. Particularly, in the scrambling-as-topicalization/focalization approach, it is suggested that the A/A'-movement analysis of scrambling be reexamined in future research.<sup>40</sup> This exploration will no doubt lead to a better understanding of Japanese grammar.

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In the case of (ib), a possessor relation does not obtain between *Taroo* and *sensei*, thereby excluding the subject raising in this case. On the contrary, *wa* can appear together with a non-nominal as well as a nominal constituent in the sentence.

- (iii) a. *Yuusyoku madeni wa kaette kimasu*  
           dinner not later than TOP return come  
           'By dinner (time), (I) will be home.'
- b. *Sonna riyuu de wa nattoku dekimasen*  
           such reason for TOP agree cannot  
           'For such a reason, (I/We) cannot agree.'

The PP with *wa* refers to the time in (iiia) and the reason in (iiib), respectively.

**40** A commonly adopted assumption is that A-movement is possible for SD scrambling, but impossible for LD scrambling mainly based on anaphor (like *zibun* 'self' and *otagai* 'each other') binding facts. However, why this should be the case needs to be further explored on theoretical as well as empirical grounds. See Yoshimura (1992) and Ueyama (1998) for the cancellation of WCO effects by LD scrambling as well as SD scrambling.

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